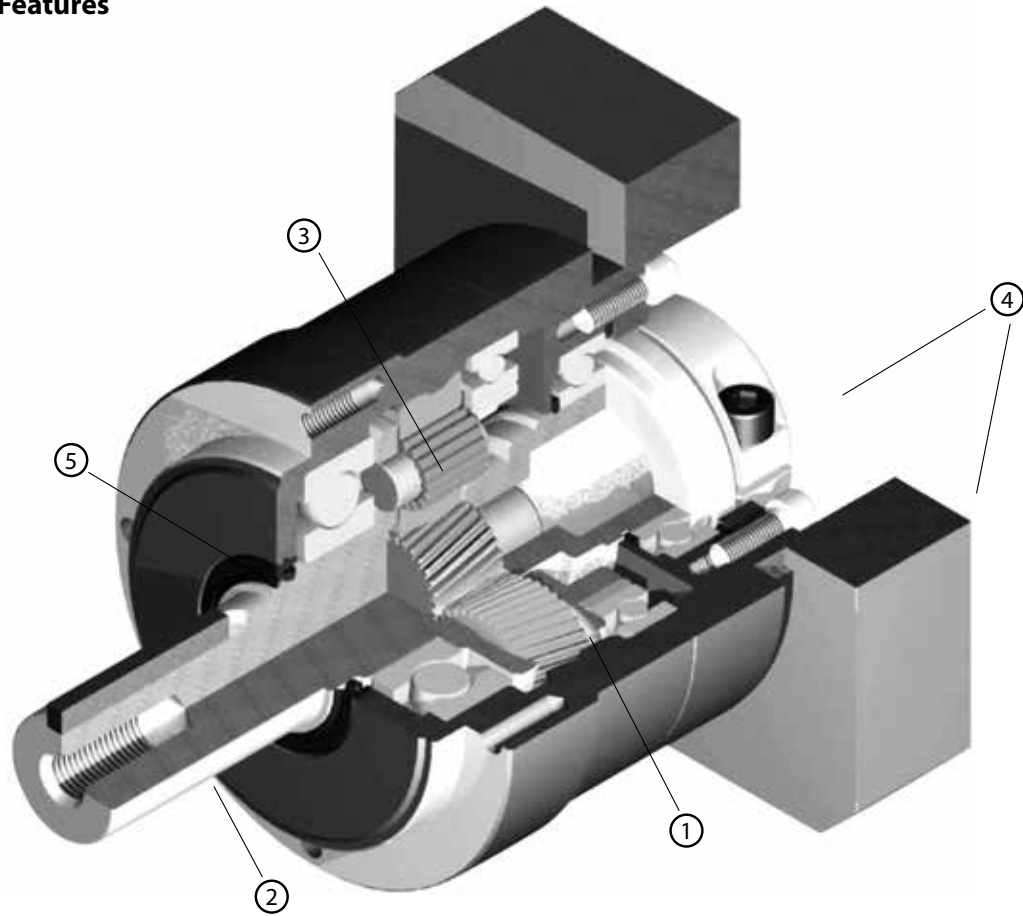




VRL-SERIES

- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thread-in mounting style
- Best-In-class backlash (≤ 5 arc/min)

VRL-Series– Features



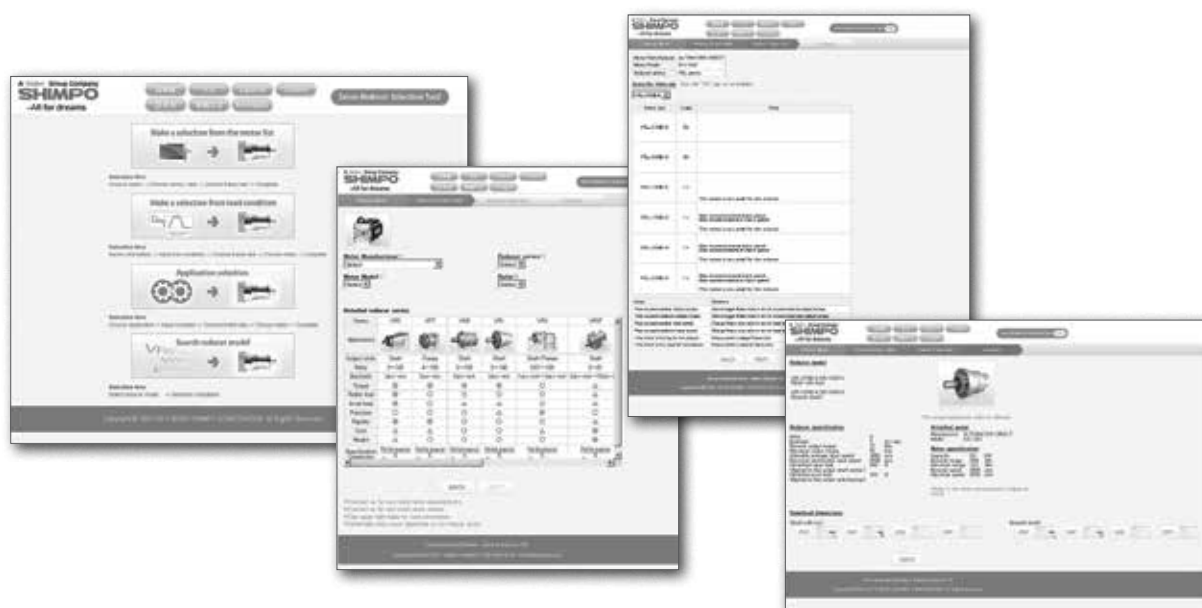
- ① Quiet operation: Helical cut gears contribute to reduced vibration and noise
- ② High precision: Standard backlash is 5 arc/min, ideal for the most accurate applications
- ③ High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ④ Adapter bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

VRL-Series – Model Code

VR	L	—	090	B	—	7	—	K	5	—	19HB16
Model name for ABLE reducer Series name VRL Series Frame size 050, 070, 090, 120, 155, 205, 235 Generation of design Ratio Single: 3, 4, 5, 6, 7, 8, 9, 10 Double: 15, 16, 20, 25, 28, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100 Output style K... Shaft with key S... Smooth shaft Backlash 5... 5arc-min * Adapter flange code											

- *1) Adapter flange code
Adapter flange code varies depending on the motor
- *2) For all washdown intensive and food grade options, refer to pages 10 and 11

Contact us for additional information or refer to our online reducer selection tool.
Selection tool www.nidec-shimpo.co.jp/selection/eng



ABLE Washdown and Food Duty Reducers

Motion control applications for production environments within the Food and Beverage, Personal Care, and Pharmaceutical industries often require materials of construction and sealants that provide higher levels of protection. To improve our product offering to these customers, NI-DEC-SHIMPO is now offering Washdown and Food Grade à la carte options for our inline and right-angle planetary reducers. These options provide ultimate flexibility without sacrificing on precision and performance.

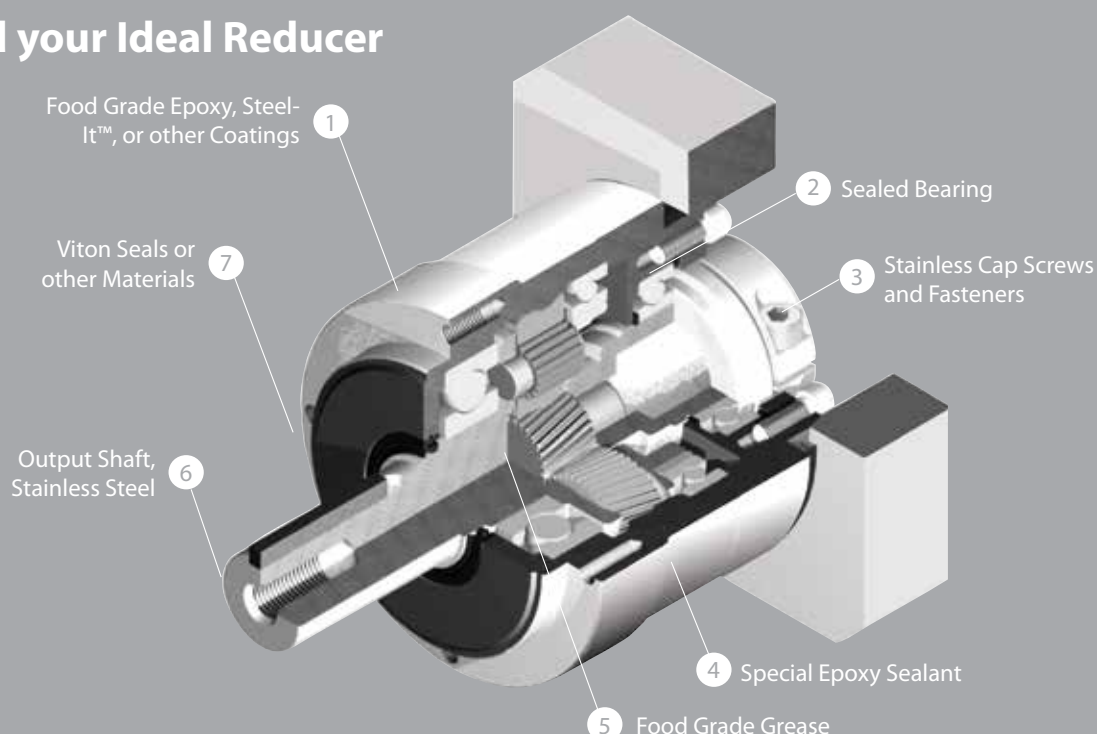
Upgradeable Features include the following;

- *Special coatings, including Food Grade white epoxy, Steel-It™, among others*
- *Sealed bearing, and Viton seal at output*
- *Stainless steel screws, fasteners, etc.*
- *Special sealant for better resistance to solvents*
- *Stainless steel output shaft*
- *Food Grade grease for exposure sensitive environments*

Note:

- 1) For Food Grade grease, special consideration is required when sizing the reducer. Contact SIT S.P.A. for support on these applications.
- 2) IP65 rating is based on standard protection criteria and commonly accepted test conditions. Any exposure at extreme conditions (continuous exposure, excessive pressure, etc.) is not considered accepted environment for given IP rating.

Build your Ideal Reducer



Immediate Availability for these Models:

Series	VRL		
Frame Size	070	090	120
1-Stage	3, 5, 7, 10:1		
2-Stage	15, 25, 28, 30, 35, 50, 70, 100:1		

Series	VRB		
Frame Size	060	090	115
1-Stage	3, 5, 7, 10:1		
2-Stage	15, 25, 28, 30, 35, 50, 70, 100:1		

Featured Series Product Extension

There are many Washdown and Food Grade features that can be added to your reducer. Below is an explanation on the model code, when specifying a reducer with the ideal performance and protection for your application.

Washdown – Model Code

VRB	090	007	K	3	19HB16	XV
Series	Frame Size	Ratio	Output shaft style	Backlash	Adapter code	
						Washdown, Food Grade Options
</						



As the global marketplace becomes increasingly competitive, NIDEC-SHIMPO continues to raise the bar in terms of product quality, flexibility, and availability – providing a real value to our customers. Our new Washdown and Food duty reducers serve as another good example where NIDEC-SHIMPO is delivering improved value to our customers.

Featured Series Product Extension

VRL-050 – 1-Stage Specifications

Frame Size	050									
Stage	1-Stage									
Ratio	Units	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	9	6	6
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	18	12	12
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	35	30	30
Nominal Input Speed	[rpm]	*4	4000							
Maximum Input Speed	[rpm]	*5	8000							
No Load Running Torque	[Nm]	*6	0.03							
Permitted Radial Load	[N]	*7	240	270	290	310	320	340	350	360
Permitted Axial Load	[N]	*8	270	300	330	360	380	410	430	450
Maximum Radial Load	[N]	*9	710							
Maximum Axial Load	[N]	*10	640							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.053	0.041	0.036	0.034	0.032	0.031	0.031	0.030
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.091	0.079	0.074	0.072	0.071	0.070	0.069	0.069
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	2							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	0.7							

VRL-050 – 2-Stage Specifications

Frame Size	050									
Stage	2-Stage									
Ratio	Units	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	9	9	9
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	12	18	18
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	30	35	35
Nominal Input Speed	[rpm]	*4	4000							
Maximum Input Speed	[rpm]	*5	8000							
No Load Running Torque	[Nm]	*6	0.01							
Permitted Radial Load	[N]	*7	410	420	460	490	510	520	550	570
Permitted Axial Load	[N]	*8	540	550	610	640	640	640	640	640
Maximum Radial Load	[N]	*9	710							
Maximum Axial Load	[N]	*10	640							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.035	0.038	0.034	0.034	0.038	0.030	0.034	0.030
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	2							
Maximum Torsional Backlash	[arc/min]	--	≤ 7							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	0.8							

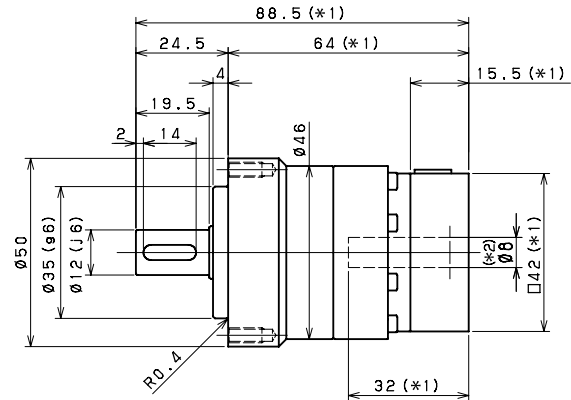
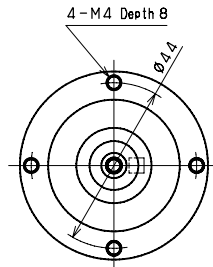
VRL-050 – 2-Stage Specifications

Frame Size	050								
Stage	2-Stage								
Ratio	Units	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	6	6
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	12	12
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	30	30
Nominal Input Speed	[rpm]	*4	4000						
Maximum Input Speed	[rpm]	*5	8000						
No Load Running Torque	[Nm]	*6	0.01						
Permitted Radial Load	[N]	*7	600	620	660	690	710	710	710
Permitted Axial Load	[N]	*8	640	640	640	640	640	640	640
Maximum Radial Load	[N]	*9	710						
Maximum Axial Load	[N]	*10	640						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.034	0.030	0.030	0.030	0.030	0.030	0.030
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	2						
Maximum Torsional Backlash	[arc/min]	--	≤ 7						
Noise Level	[dB]	*13	61						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	0.8						

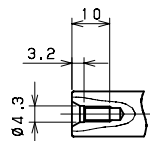
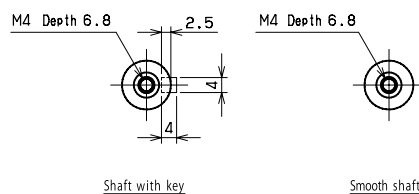
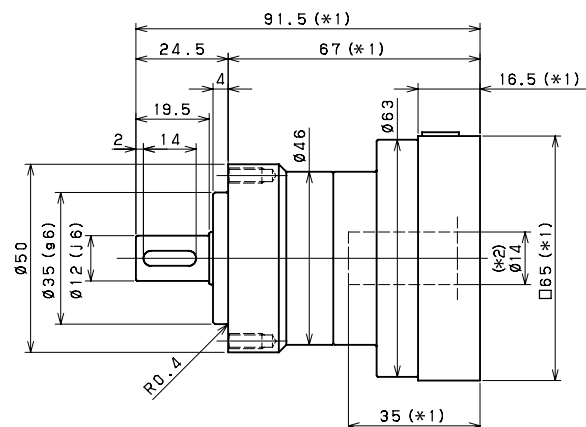
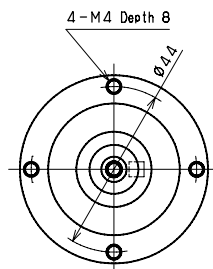
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 4,000 rpm for VRL 050
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-o50 – 1-Stage Dimensions

Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$

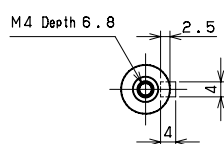
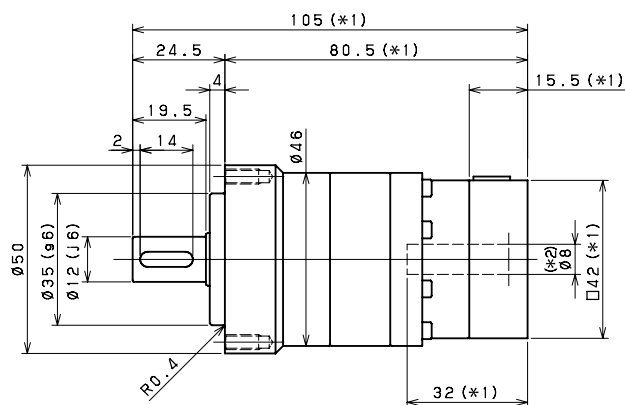
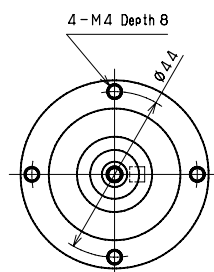


*1) Length will vary depending on motor

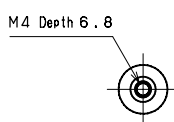
*2) Bushing will be inserted to adapt to motor shaft

VRL-050 – 2-Stage Dimensions

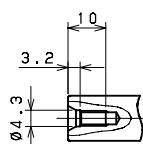
Input shaft bore $\leq \varnothing 8$



Shaft with key



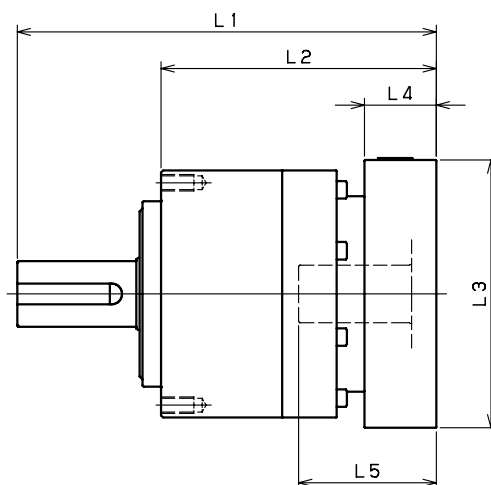
Smooth shaft



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRL-050 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRL-050-□-□-S8** (Input shaft bore ≤ φ8)	ZA·ZC·ZD·ZF·ZG·ZL·ZM·ZN·ZQ	88.5	73	64	□42	15.5	32
	ZB·ZE·ZH·ZJ·ZK	93.5	73	69	□42	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	88.5	73	64	□60	15.5	32
	BC·BF	93.5	73	69	□60	20.5	37
VRL-050-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BJ·BK·BP	91.5	75	67	□65	16.5	35
	BC·BH·BM·BN	96.5	75	72	□65	21.5	40
	BL	101.5	75	77	□65	26.5	45

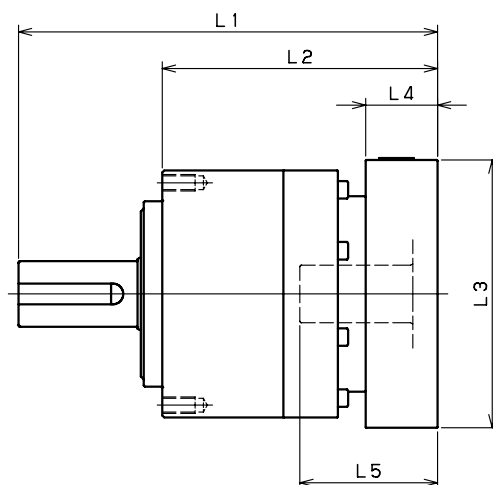
*1) Single reduction : 1/3 - 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, Contact SIT S.P.A.

VRL-050 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRL-050-□-□-S8** (Input shaft bore ≤ φ8)	ZA·ZC·ZD·ZF·ZG·ZL·ZM·ZN·ZQ	105	89.5	80.5	□42	15.5	32
	ZB·ZE·ZH·ZJ·ZK	110	89.5	85.5	□42	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	105	89.5	80.5	□60	15.5	32
	BC·BF	110	89.5	85.5	□60	20.5	37
VRL-050-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BJ·BK·BP	--	--	--	--	--	--
	BC·BH·BM·BN	--	--	--	--	--	--
	BL	--	--	--	--	--	--

*1) Double reduction : 1/15 - 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, Contact SIT S.P.A.

VRL-070 – 1-Stage Specifications

Frame Size	070									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	27	18	18
Maximum Output Torque	[Nm]	*2	35	50	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.08							
Permitted Radial Load	[N]	*7	430	470	510	540	570	600	620	640
Permitted Axial Load	[N]	*8	310	360	390	430	460	480	510	530
Maximum Radial Load	[N]	*9	1200							
Maximum Axial Load	[N]	*10	1100							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.140	0.095	0.077	0.068	0.062	0.059	0.057	0.056
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.220	0.170	0.160	0.150	0.140	0.140	0.140	0.140
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.430	0.380	0.360	0.360	0.350	0.350	0.340	0.340
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	3							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	≤ 66							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.5							

VRL-070 – 2-Stage Specifications

Frame Size	070									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	27	27
Maximum Output Torque	[Nm]	*2	35	50	50	50	50	35	50	50
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	100	100
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.04							
Permitted Radial Load	[N]	*7	740	750	810	870	910	930	980	1000
Permitted Axial Load	[N]	*8	630	650	720	790	830	860	920	970
Maximum Radial Load	[N]	*9	1200							
Maximum Axial Load	[N]	*10	1100							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.055	0.057	0.054	0.053	0.055	0.049	0.053	0.049
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.140	0.140	0.130	0.130	0.140	0.130	0.130	0.130
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.350	0.360	0.350	0.350	0.360	0.340	0.350	0.340
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	3							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	≤ 66							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.7							

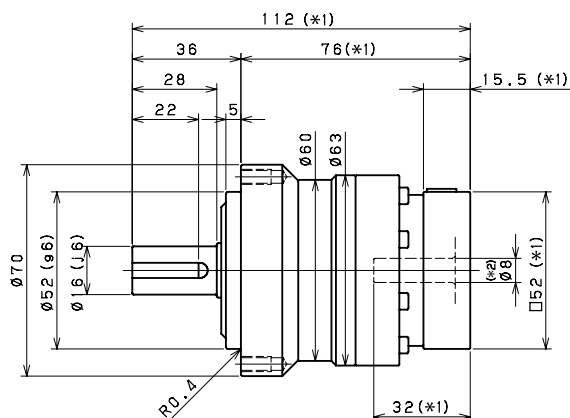
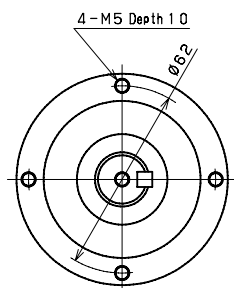
VRL-070 – 2-Stage Specifications

Frame Size	070								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	18
Maximum Output Torque	[Nm]	*2	35	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.04						
Permitted Radial Load	[N]	*7	1100	1100	1200	1200	1200	1200	1200
Permitted Axial Load	[N]	*8	1000	1100	1100	1100	1100	1100	1100
Maximum Radial Load	[N]	*9	1200						
Maximum Axial Load	[N]	*10	1100						
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.053	0.049	0.049	0.049	0.049	0.049	0.049
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.130	0.130	0.130	0.130	0.130	0.13	0.13
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.350	0.340	0.340	0.340	0.340	0.340	0.340
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	3						
Maximum Torsional Backlash	[arc/min]	--	≤ 5						
Noise Level	[dB]	*13	≤ 66						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	1.7						

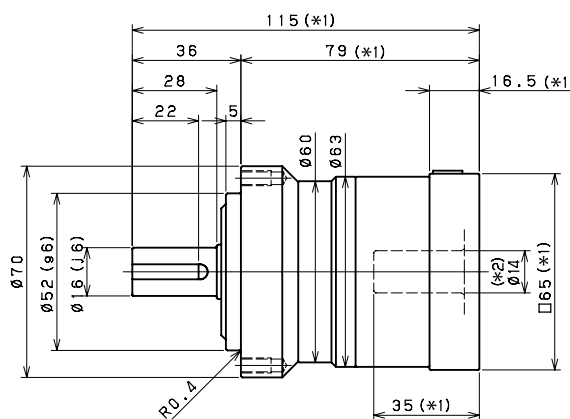
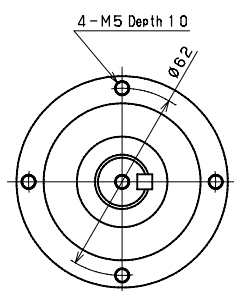
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRL 070
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-070 – 1-Stage Dimensions

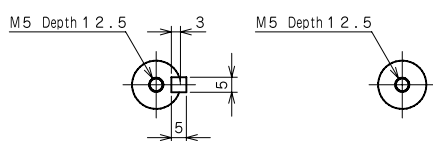
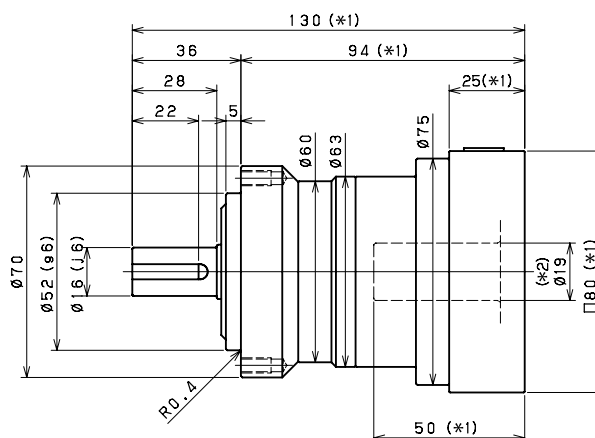
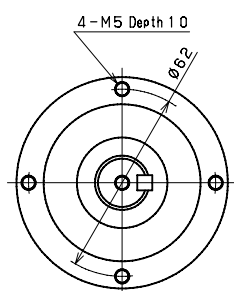
Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Shaft with key

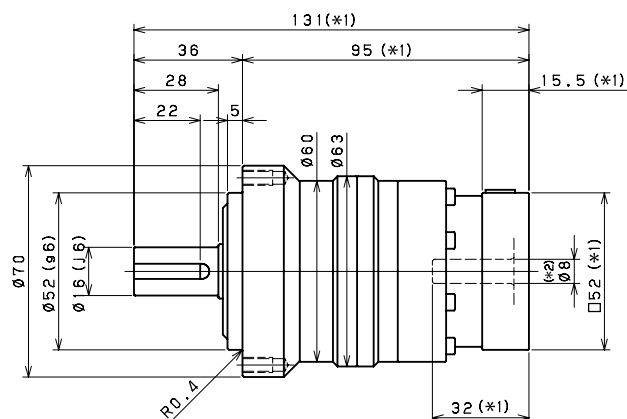
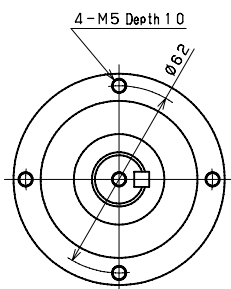
Smooth shaft

*1) Length will vary depending on motor

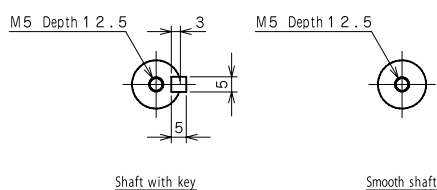
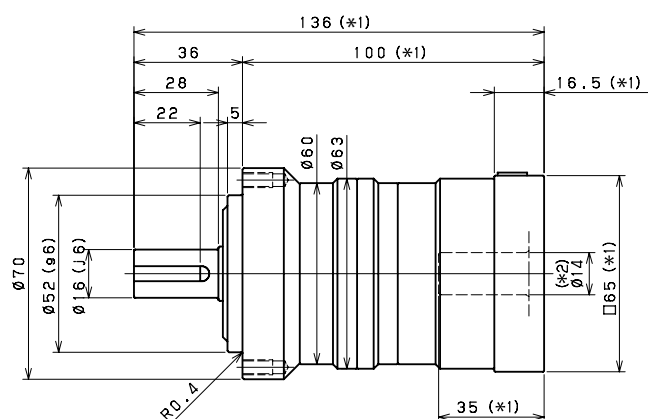
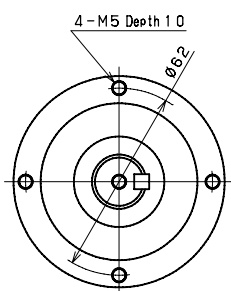
*2) Bushing will be inserted to adapt to motor shaft

VRL-070 – 2-Stage Dimensions

Input shaft bore $\leq \varphi 8$



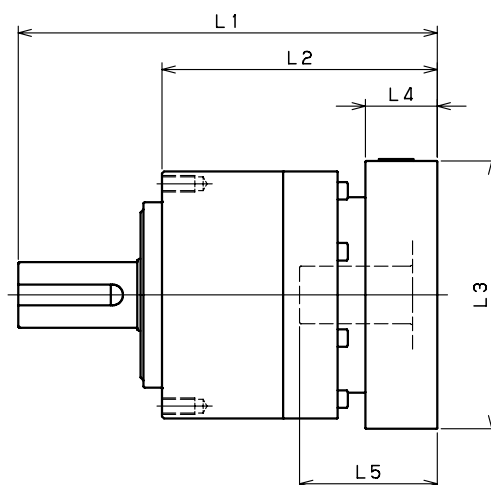
Input shaft bore $\leq \phi 14$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRL-070 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRL-070-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	112	96.5	76	□52	15.5	32
	AB·AE·AH·AJ·AK	117	96.5	81	□52	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	112	96.5	76	□60	15.5	32
	BC·BF	117	96.5	81	□60	20.5	37
	CA	117	96.5	81	□70	20.5	37
VRL-070-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	115	98.5	79	□65	16.5	35
	BC·BH·BM·BN	120	98.5	84	□65	21.5	40
	BL	125	98.5	89	□65	26.5	45
	CA·CC	115	98.5	79	□70	16.5	35
	CB	120	98.5	84	□70	21.5	40
	DA·DB·DC·DD·DF·DH·DJ	115	98.5	79	□80	16.5	35
	DE·DL	120	98.5	84	□80	21.5	40
	DG·DK	125	98.5	89	□80	26.5	45
	EA·EB·EC·EF·EG·EK·EL	115	98.5	79	□90	16.5	35
	EJ·EM	120	98.5	84	□90	21.5	40
	ED·EE·EH	125	98.5	89	□90	26.5	45
	FA	115	98.5	79	□100	16.5	35
	FB	115	98.5	79	□115	16.5	35
VRL-070-□-□-19** (Input shaft bore ≤ φ19)	DA·DB·DC	130	105	94	□80	25	50
	DD	140	105	104	□80	35	60
	DE	135	105	99	□80	30	55
	EA	135	105	99	□90	30	55
	EB·ED	130	105	94	□90	25	50
	EC	140	105	104	□90	35	60
	FA	130	105	94	□100	25	50
	FB	140	105	104	□100	35	60

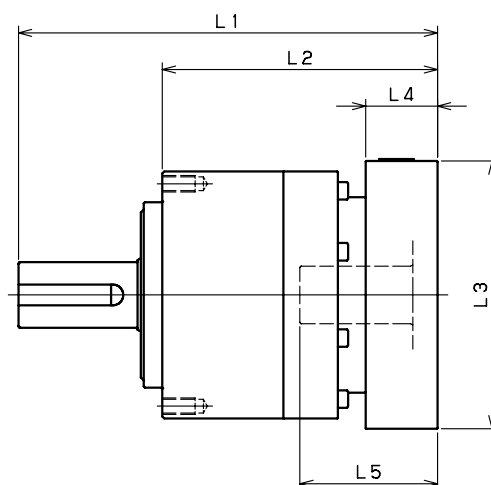
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-070 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRL-070-□-□-8** (Input shaft bore ≤ φ8)	AA•AC•AD•AF•AG•AL•AM•AN•AQ	131	115.5	95	□52	15.5	32
	AB•AE•AH•AJ•AK	136	115.5	100	□52	20.5	37
	BA•BB•BD•BE•BG•BH•BJ	131	115.5	95	□60	15.5	32
	BC•BF	136	115.5	100	□60	20.5	37
	CA	136	115.5	100	□70	20.5	37
VRL-070-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	136	119.5	100	□65	16.5	35
	BC•BH•BM•BN	141	119.5	105	□65	21.5	40
	BL	146	119.5	110	□65	26.5	45
	CA•CC	136	119.5	100	□70	16.5	35
	CB	141	119.5	105	□70	21.5	40
	DA•DB•DC•DD•DF•DH•DJ	136	119.5	100	□80	16.5	35
	DE•DL	141	119.5	105	□80	21.5	40
	DG•DK	146	119.5	110	□80	26.5	45
	EA•EB•EC•EF•EG•EK•EL	136	119.5	100	□90	16.5	35
	EJ•EM	141	119.5	105	□90	21.5	40
	ED•EE•EH	146	119.5	110	□90	26.5	45
	FA	136	119.5	100	□100	16.5	35
	FB	136	119.5	100	□115	16.5	35
VRL-070-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	151	126	115	□80	25	50
	DD	161	126	125	□80	35	60
	DE	156	126	120	□80	30	55
	EA	156	126	120	□90	30	55
	EB•ED	151	126	115	□90	25	50
	EC	161	126	125	□90	35	60
	FA	151	126	115	□100	25	50
	FB	161	126	125	□100	35	60

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-090 – 1-Stage Specifications

Frame Size	090									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.35							
Permitted Radial Load	[N]	*7	810	890	960	1000	1100	1100	1200	1200
Permitted Axial Load	[N]	*8	930	1100	1200	1300	1300	1400	1500	1600
Maximum Radial Load	[N]	*9	2400							
Maximum Axial Load	[N]	*10	2200							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.720	0.490	0.400	0.360	0.320	0.310	0.290	0.290
Moment of Inertia ($\leq \emptyset 19$)	--	--	1.200	0.950	0.860	0.820	0.790	0.770	0.760	0.750
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	3.200	3.000	2.900	2.800	2.800	2.800	2.800	2.800
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	10							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	3.5							

VRL-090 – 2-Stage Specifications

Frame Size	090									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	75	75
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	125	125
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	250	250
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.06							
Permitted Radial Load	[N]	*7	1400	1400	1500	1600	1700	1700	1800	1900
Permitted Axial Load	[N]	*8	1900	1900	2100	2200	2200	2200	2200	2200
Maximum Radial Load	[N]	*9	2400							
Maximum Axial Load	[N]	*10	2200							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.130	0.150	0.130	0.120	0.140	0.100	0.120	0.099
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.280	0.300	0.280	0.280	0.290	0.250	0.270	0.250
Moment of Inertia ($\leq \emptyset 19$)	--	--	0.720	0.740	0.720	0.710	0.730	0.700	0.710	0.700
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	2.700	2.800	2.700	2.700	2.700	2.600	2.700	2.600
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	10							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	4							

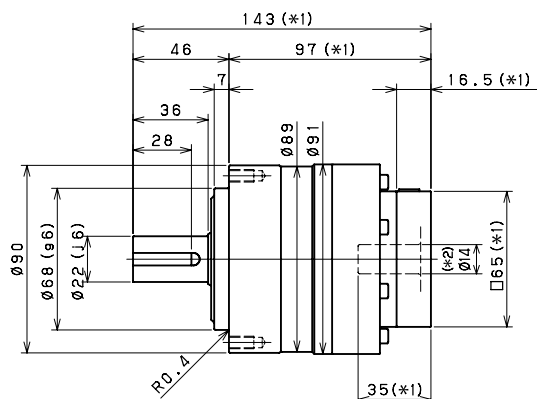
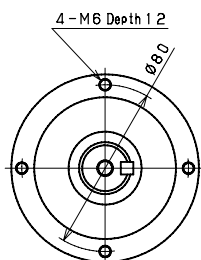
VRL-090 – 2-Stage Specifications

Frame Size	090								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.06						
Permitted Radial Load	[N]	*7	2000	2100	2200	2300	2400	2400	2400
Permitted Axial Load	[N]	*8	2200	2200	2200	2200	2200	2200	2200
Maximum Radial Load	[N]	*9	2400						
Maximum Axial Load	[N]	*10	2200						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.120	0.098	0.098	0.097	0.097	0.097	0.097
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.270	0.250	0.250	0.250	0.250	0.250	0.250
Moment of Inertia ($\leq \varnothing 19$)	--	--	0.710	0.690	0.690	0.690	0.690	0.690	0.690
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.700	2.600	2.600	2.600	2.600	2.600	2.600
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	10						
Maximum Torsional Backlash	[arc/min]	--	≤ 5						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	4						

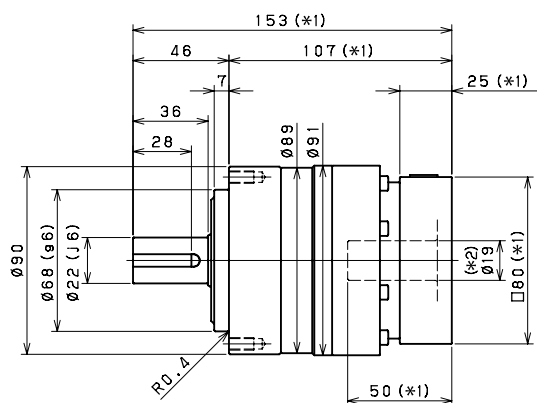
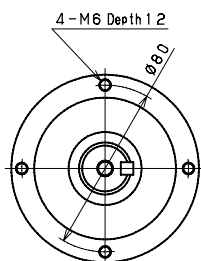
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRL 090
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-090 – 1-Stage Dimensions

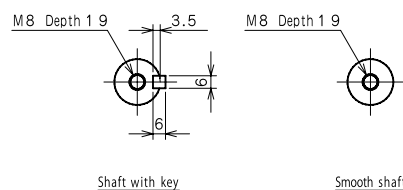
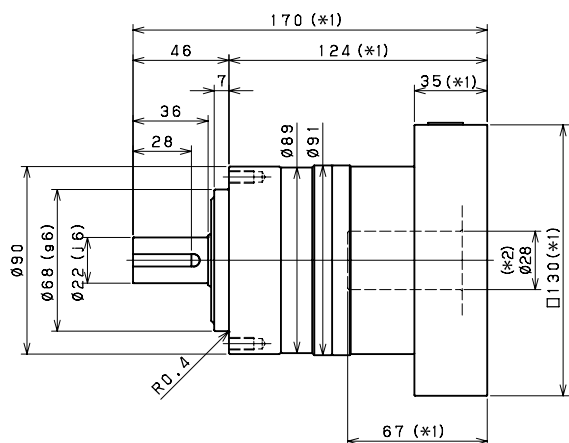
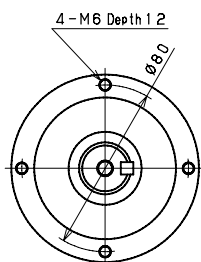
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$

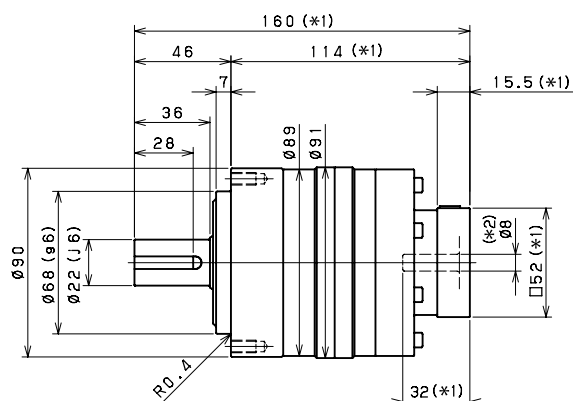
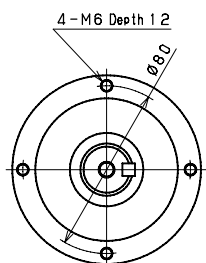


*1) Length will vary depending on motor

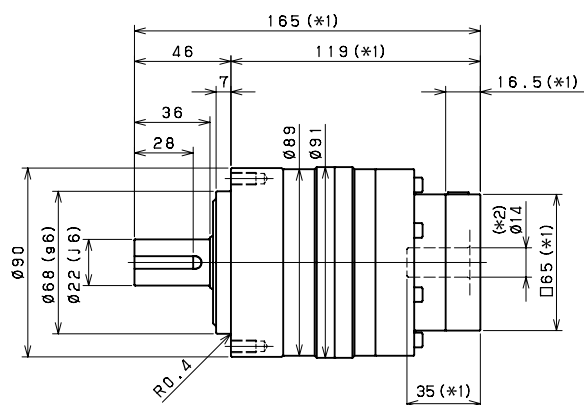
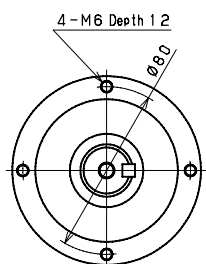
*2) Bushing will be inserted to adapt to motor shaft

VRL-090 – 2-Stage Dimensions

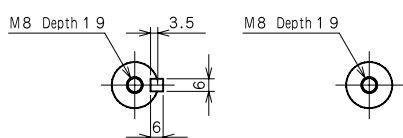
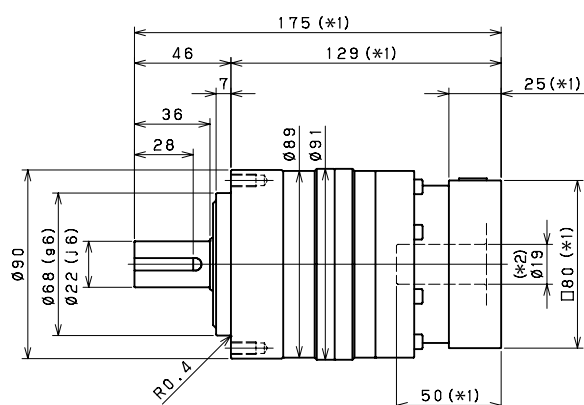
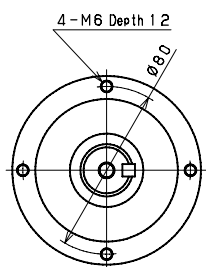
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \phi 19$



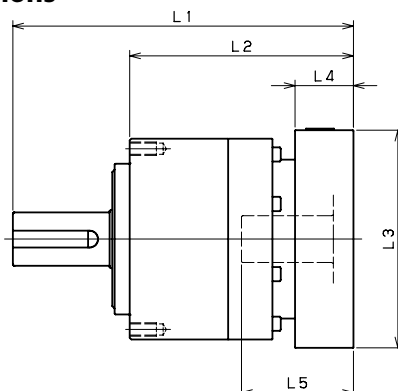
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRL-090 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRL-090-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	--	--	--	--	--	--
	AB·AE·AH·AJ·AK	--	--	--	--	--	--
	BA·BB·BD·BE·BG·BH·BJ	--	-	--	--	-	--
	CA	--	--	--	--	--	--
VRL-090-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	143	126.5	97	□65	16.5	35
	BC·BH·BM·BN	148	126.5	102	□65	21.5	40
	CA·CC	143	126.5	97	□70	16.5	35
	DA·DB·DC·DD·DF·DH·DJ	143	126.5	97	□80	16.5	35
	EA·EB·EC·EF·EG·EK·EL	143	126.5	97	□90	16.5	35
	FA	143	126.5	97	□100	16.5	35
	FB	153	126.5	107	□100	26.5	45
VRL-090-□-□-19** (Input shaft bore ≤ φ19)	JA	158	126.5	112	□150	31.5	50
	DA·DB·DC	153	128	107	□80	25	50
	EB·ED	153	128	107	□90	25	50
	FA	153	128	107	□100	25	50
	FB	163	128	117	□100	35	60
	GA·GC·GH	158	128	112	□115	30	55
	GB·GD·GJ	153	128	107	□115	25	50
	GE·GF	163	128	117	□115	35	60
	HA	153	128	107	□130	25	50
	HB	168	128	122	□130	40	65
	HC·HD·HE	158	128	112	□130	30	55
	JA	163	128	117	□150	35	60
VRL-090-□-□-28** (Input shaft bore ≤ φ28)	JB	168	128	122	□150	40	65
	FA·FB·FC	170	135	124	□100	35	67
	FD·FE	165	135	119	□100	30	62
	GA·GB·GC·GD·GE·GF·GG·GH	170	135	124	□115	35	67
	HA·HC·HD	170	135	124	□130	35	67
	HB	180	135	134	□130	45	77
	HE	185	135	139	□130	50	82
	HF	165	135	119	□130	30	62
	JA·JB·JC·JF	170	135	124	□150	35	67
	JD	190	135	144	□150	55	87
	JE	180	135	134	□150	45	77

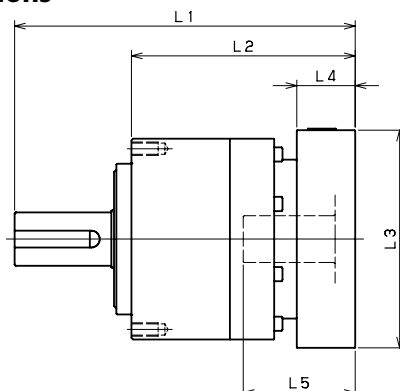
*1) Single reduction : 1/3 ~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-090 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRL-090-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	160	144.5	114	□52	15.5	32
	AB·AE·AH·AJ·AK	165	144.5	119	□52	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	160	144.5	114	□60	15.5	32
	CA	165	144.5	119	□70	20.5	37
VRL-090-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	165	148.5	119	□65	16.5	35
	BC·BH·BM·BN	170	148.5	124	□65	21.5	40
	CA·CC	165	148.5	119	□70	16.5	35
	DA·DB·DC·DD·DF·DH·DJ	165	148.5	119	□80	16.5	35
	EA·EB·EC·EF·EG·EK·EL	165	148.5	119	□90	16.5	35
	FA	165	148.5	119	□100	16.5	35
	FB	175	148.5	129	□100	26.5	45
	JA	180	148.5	134	□150	31.5	50
VRL-090-□-□-19** (Input shaft bore ≤ φ19)	DA·DB·DC	175	150	129	□80	25	50
	EB·ED	175	150	129	□90	25	50
	FA	175	150	129	□100	25	50
	FB	185	150	139	□100	35	60
	GA·GC·GH	180	150	134	□115	30	55
	GB·GD·GJ	175	150	129	□115	25	50
	GE·GF	185	150	139	□115	35	60
	HA	175	150	129	□130	25	50
	HB	190	150	144	□130	40	65
	HC·HD·HE	180	150	134	□130	30	55
	JA	185	150	139	□150	35	60
	JB	190	150	144	□150	40	65
VRL-090-□-□-28** (Input shaft bore ≤ φ28)	FA·FB·FC	194	159	148	□100	35	67
	FD·FE	189	159	143	□100	30	62
	GA·GB·GC·GD·GE·GF·GG·GH	194	159	148	□115	35	67
	HA·HC·HD	194	159	148	□130	35	67
	HB	204	159	158	□130	45	77
	HE	209	159	163	□130	50	82
	HF	189	159	143	□130	30	62
	JA·JB·JC·JF	194	159	148	□150	35	67
	JD	214	159	168	□150	55	87
	JE	204	159	158	□150	45	n

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-120 – 1-Stage Specifications

Frame Size	120									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	120	120	180	180	180	180	120	120
Maximum Output Torque	[Nm]	*2	225	330	330	330	330	330	225	225
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	625	500	500
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*14	1.30							
Permitted Radial Load	[N]	*6	1300	1500	1600	1700	1800	1900	1900	2000
Permitted Axial Load	[N]	*7	1500	1700	1900	2000	2100	2300	2400	2500
Maximum Radial Load	[N]	*8	4300							
Maximum Axial Load	[N]	*9	3900							
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]		--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]		3.300	2.000	1.600	1.300	1.100	1.000	0.980	0.950
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]		5.300	4.100	3.600	3.300	3.200	3.100	3.000	3.000
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]		13.000	12.000	11.000	11.000	11.000	11.000	11.000	11.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	31							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	71							
Protection Class		*15	IP54 (IP65)							
Ambient Temperature	[°C]		0-40							
Permitted Housing Temperature	[°C]	*16	90							
Weight	[kg]	*10	7.8							

VRL-120 – 2-Stage Specifications

Frame Size	120									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	180	180
Maximum Output Torque	[Nm]	*2	225	330	330	330	330	225	330	330
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	625	625
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*14	0.42							
Permitted Radial Load	[N]	*6	2300	2300	2500	2700	2800	2900	3000	3200
Permitted Axial Load	[N]	*7	3000	3100	3400	3700	3900	3900	3900	3900
Maximum Radial Load	[N]	*8	4300							
Maximum Axial Load	[N]	*9	3900							
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]		0.430	0.480	0.400	0.380	0.440	0.290	0.370	0.280
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]		0.860	0.920	0.830	0.820	0.880	0.740	0.810	0.730
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]		2.800	2.900	2.800	2.800	2.800	2.700	2.700	2.700
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]		--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	31							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	71							
Protection Class		*15	IP54 (IP65)							
Ambient Temperature	[°C]		0-40							
Permitted Housing Temperature	[°C]	*16	90							
Weight	[kg]	*10	8.7							

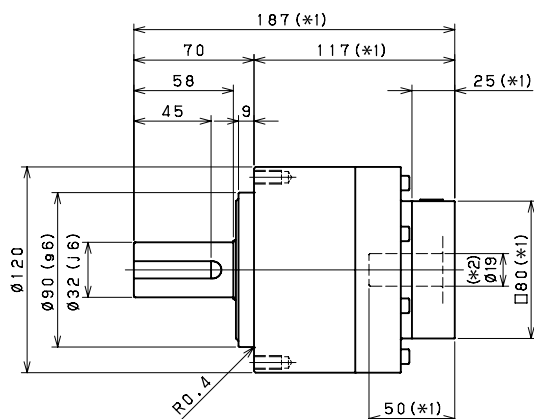
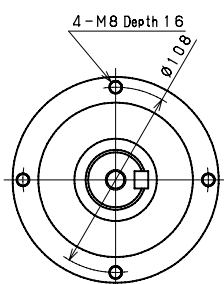
VRL-120 – 2-Stage Specifications

Frame Size	120								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	120
Maximum Output Torque	[Nm]	*2	225	330	330	330	330	225	225
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	500
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*14	0.42						
Permitted Radial Load	[N]	*6	3300	3400	3600	3800	4000	4200	4300
Permitted Axial Load	[N]	*7	3900	3900	3900	3900	3900	3900	3900
Maximum Radial Load	[N]	*8	4300						
Maximum Axial Load	[N]	*9	3900						
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]		0.370	0.280	0.280	0.280	0.280	0.270	0.270
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]		0.800	0.730	0.730	0.730	0.730	0.730	0.730
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]		2.700	2.700	2.700	2.700	2.700	2.700	2.700
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]		--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	31						
Maximum Torsional Backlash	[arc/min]	--	≤ 5						
Noise Level	[dB]	*13	71						
Protection Class		*15	IP54 (IP65)						
Ambient Temperature	[°C]		0-40						
Permitted Housing Temperature	[°C]	*16	90						
Weight	[kg]	*10	8.7						

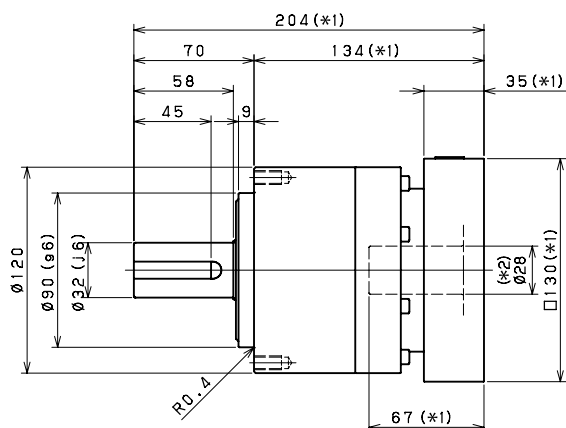
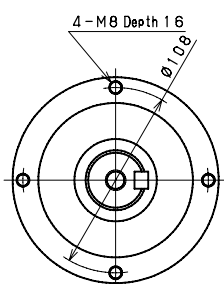
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRL 120
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-120 – 1-Stage Dimensions

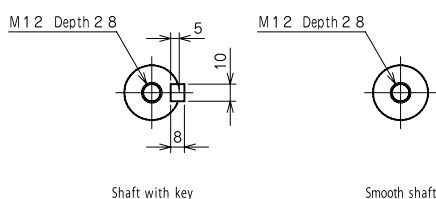
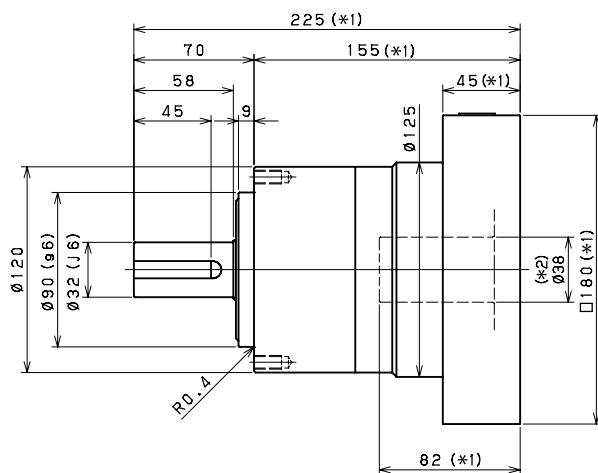
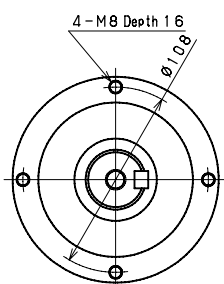
Input shaft bore $\leq \varnothing 19$



Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$

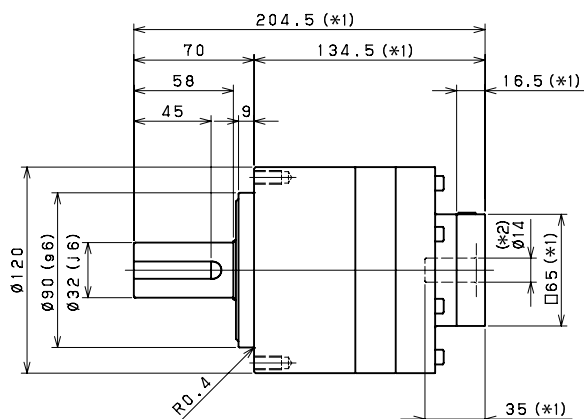
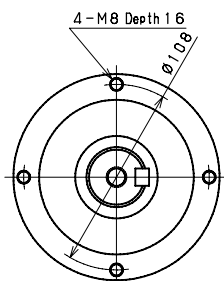


*1) Length will vary depending on motor

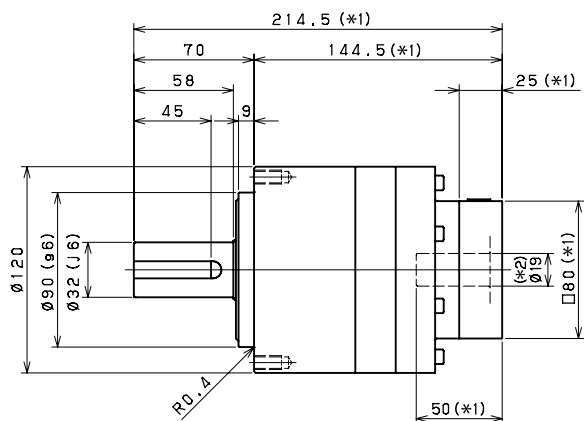
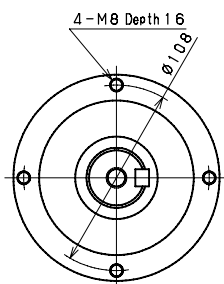
*2) Bushing will be inserted to adapt to motor shaft

VRL-120 – 2-Stage Dimensions

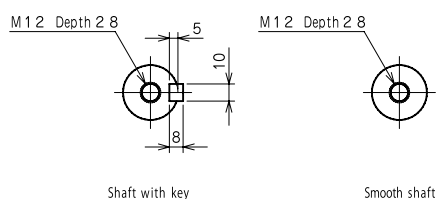
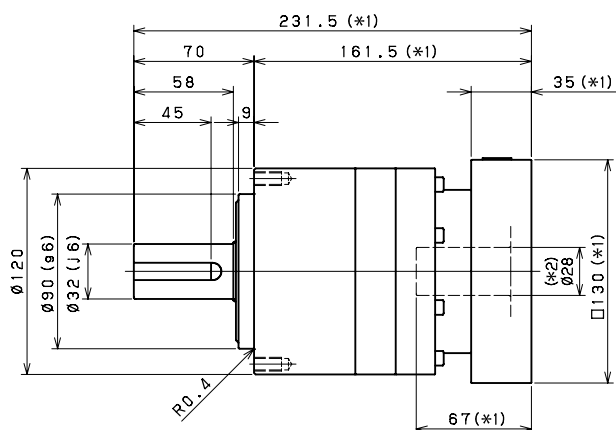
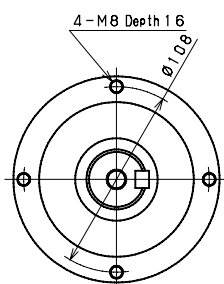
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



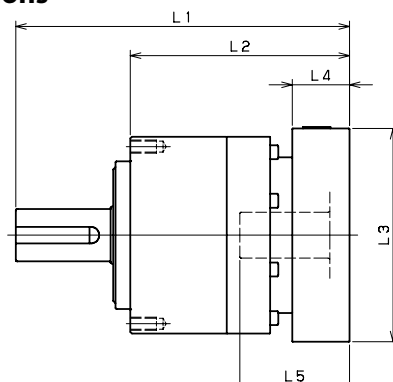
Input shaft bore $\leq \phi 28$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRL-120 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRL-120-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	--	--	--	--	--	--
	BC•BH•BM•BN	--	--	--	--	--	--
	CA•CC	--	--	--	--	--	--
	DA•DB•DC•DD•DF•DH•DJ	--	--	--	--	--	--
	EA•EB•EC•EF•EG•EK•EL	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	JA	--	--	--	--	--	--
VRL-120-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	187	162	117	□80	25	50
	EB	187	162	117	□90	25	50
	FA	187	162	117	□100	25	50
	FB	197	162	127	□100	35	60
	GB•GD	187	162	117	□115	25	50
	HA	197	162	127	□115	35	60
	--	187	162	117	□130	25	50
	--	202	162	132	□130	40	65
	--	192	162	122	□130	30	55
	HB	197	162	127	□150	35	60
	HC•HD•HE	202	162	132	□150	40	65
VRL-120-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	204	169	134	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	204	169	134	□115	35	67
	HA•HC•HD	204	169	134	□130	35	67
	HB	214	169	144	□130	45	77
	HF	199	169	129	□130	30	62
	JA•JB•JC•JF	204	169	134	□150	35	67
	JE	214	169	144	□150	45	77
	KA•KB•KE	204	169	134	□180	35	67
	KD	214	169	144	□180	45	77
VRL-120-□-□-38** (Input shaft bore ≤ φ38)	HA	225	180	155	□130	45	82
	HB•HE	220	180	150	□130	40	77
	JA	225	180	155	□150	45	82
	KA•KB•KC	225	180	155	□180	45	82
	KD	260	180	190	□180	80	117
	KE	240	180	170	□180	60	97

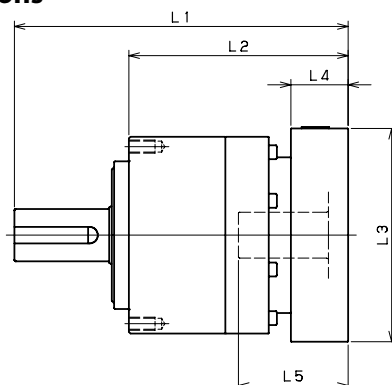
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-120 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRL-120-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	204.5	188	134.5	□65	16.5	35
	BC•BH•BM•BN	209.5	188	139.5	□65	21.5	40
	CA•CC	204.5	188	134.5	□70	16.5	35
	DA•DB•DC•DD•DF•DH•DJ	204.5	188	134.5	□80	16.5	35
	EA•EB•EC•EF•EG•EK•EL	204.5	188	134.5	□90	16.5	35
	FA	204.5	188	134.5	□100	16.5	35
	FB	214.5	188	144.5	□100	26.5	45
	JA	219.5	188	149.5	□150	31.5	50
VRL-120-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	214.5	189.5	144.5	□80	25	50
	EB	214.5	189.5	144.5	□90	25	50
	FA	214.5	189.5	144.5	□100	25	50
	FB	224.5	189.5	154.5	□100	35	60
	GB•GD	214.5	189.5	144.5	□115	25	50
	HA	224.5	189.5	154.5	□115	35	60
	--	214.5	189.5	144.5	□130	25	50
	--	229.5	189.5	159.5	□130	40	65
	--	219.5	189.5	149.5	□130	30	55
	HB	224.5	189.5	154.5	□150	35	60
	HC•HD•HE	229.5	189.5	159.5	□150	40	65
VRL-120-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	231.5	196.5	161.5	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	231.5	196.5	161.5	□115	35	67
	HA•HC•HD	231.5	196.5	161.5	□130	35	67
	HB	241.5	196.5	171.5	□130	45	77
	HF	226.5	196.5	156.5	□130	30	62
	JA•JB•JC•JF	231.5	196.5	161.5	□150	35	67
	JE	241.5	196.5	171.5	□150	45	77
	KA•KB•KE	231.5	196.5	161.5	□180	35	67
	KD	241.5	196.5	171.5	□180	45	77
VRL-120-□-□-38** (Input shaft bore ≤ φ38)	HA	249	204	179	□130	45	82
	HB•HE	244	204	174	□130	40	77
	JA	249	204	179	□150	45	82
	KA•KB•KC	249	204	179	□180	45	82
	KD	284	204	214	□180	80	117
	KE	264	204	194	□180	60	97

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-155 – 1-Stage Specifications

Frame Size	155									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	240	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	1.63							
Permitted Radial Load	[N]	*7	3200	3500	3800	4000	4200	4400	4600	4700
Permitted Axial Load	[N]	*8	2400	2700	3000	3300	3500	3700	3900	4100
Maximum Radial Load	[N]	*9	9100							
Maximum Axial Load	[N]	*10	8200							
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	12.000	7.500	5.800	4.900	4.100	3.800	3.600	3.500
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	20.000	15.000	14.000	13.000	12.000	12.000	11.000	11.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	42.000	37.000	36.000	35.000	34.000	34.000	34.000	34.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	60							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	16							

VRL-155 – 2-Stage Specifications

Frame Size	155									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	360	360
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	700	700
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1250	1250
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	0.56							
Permitted Radial Load	[N]	*7	5400	5500	6000	6400	6700	6800	7200	7500
Permitted Axial Load	[N]	*8	4900	5000	5500	6100	6400	6600	7000	7500
Maximum Radial Load	[N]	*9	9100							
Maximum Axial Load	[N]	*10	8200							
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	1.300	1.500	1.200	1.100	1.400	0.850	1.100	0.830
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	3.200	3.500	3.100	3.100	3.300	2.800	3.100	2.800
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	11.000	11.000	11.000	11.000	11.000	10.000	11.000	10.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	60							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	18							

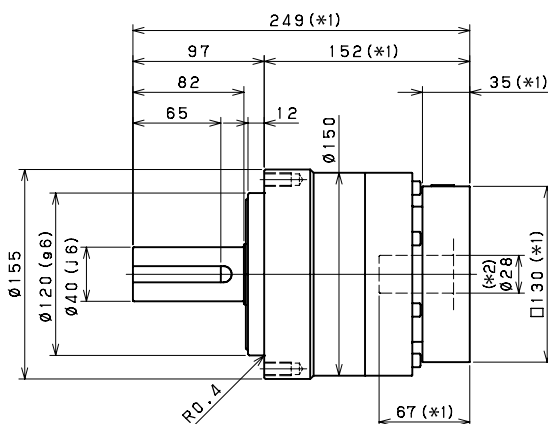
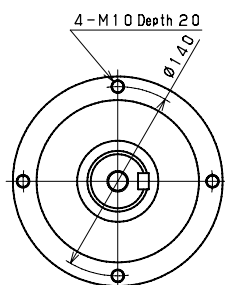
VRL-155 – 2-Stage Specifications

Frame Size	155								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000						
Maximum Input Speed	[rpm]	*5	4000						
No Load Running Torque	[Nm]	*6	0.56						
Permitted Radial Load	[N]	*7	7800	8100	8600	9100	9100	9100	9100
Permitted Axial Load	[N]	*8	7900	8200	8200	8200	8200	8200	8200
Maximum Radial Load	[N]	*9	9100						
Maximum Axial Load	[N]	*10	8200						
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.100	0.810	0.810	0.800	0.800	0.800	0.800
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.000	2.800	2.800	2.800	2.800	2.800	2.800
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	11.000	10.000	10.000	10.000	10.000	10.000	10.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	60						
Maximum Torsional Backlash	[arc/min]	--	≤ 5						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	18						

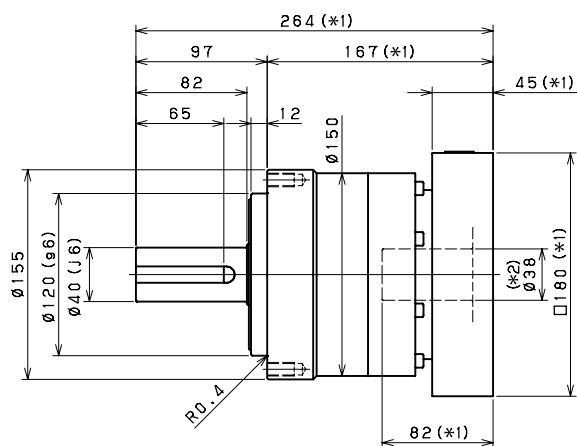
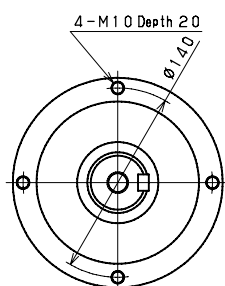
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRL155
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-155 – 1-Stage Dimensions

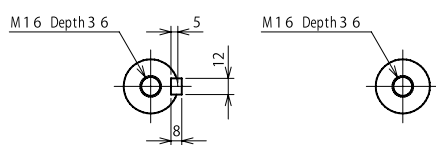
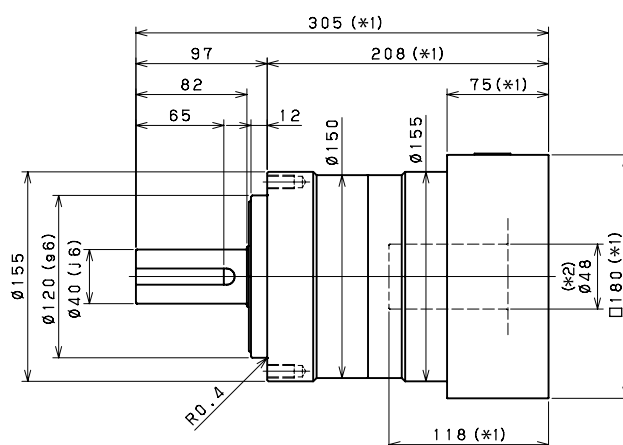
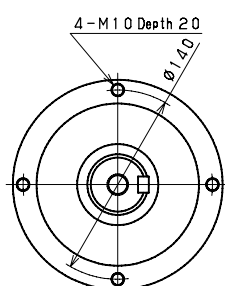
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$



Shaft with key

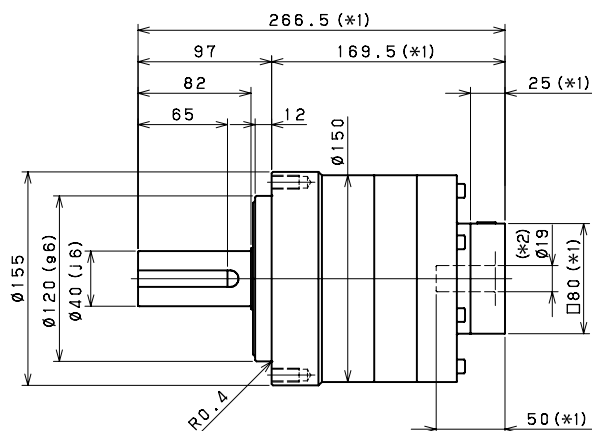
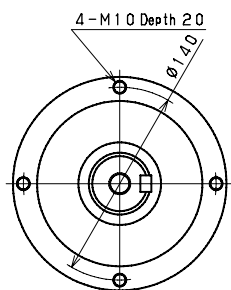
Smooth shaft

*1) Length will vary depending on motor

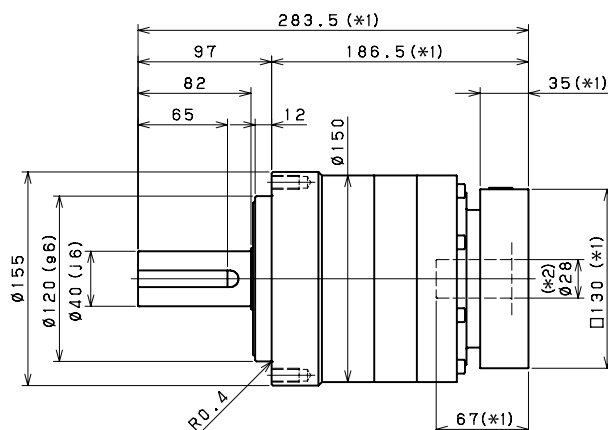
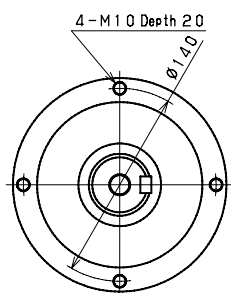
*2) Bushing will be inserted to adapt to motor shaft

VRL-155 – 2-Stage Dimensions

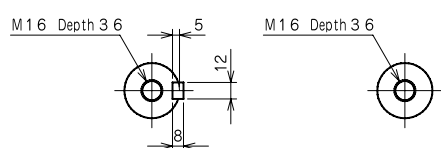
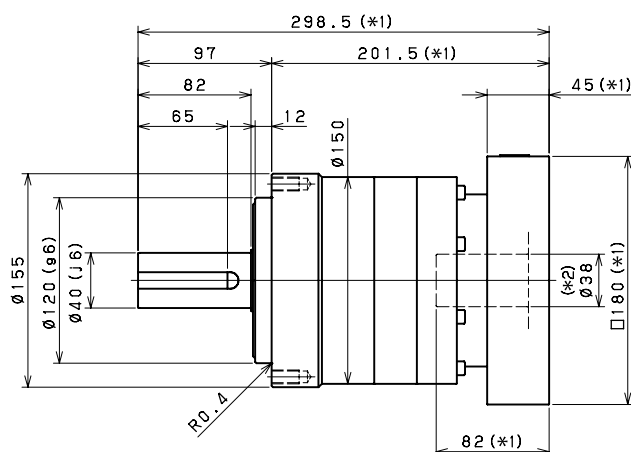
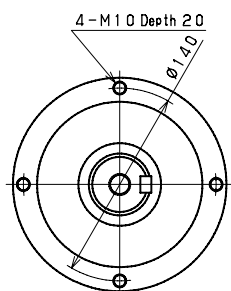
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



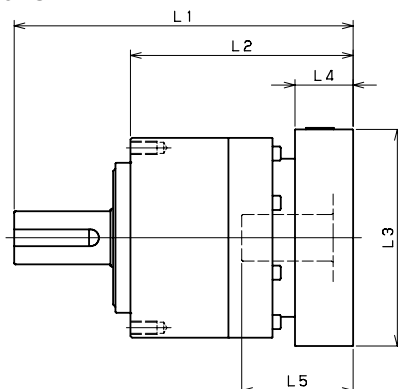
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRL-155 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRL-155-□-□-19** (Input shaft bore ≤ φ19)	DA-DB-DC	--	--	--	--	--	--
	EB-ED	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	GB-GD-GJ	--	--	--	--	--	--
	HA	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	JA	--	--	--	--	--	--
VRL-155-□-□-28** (Input shaft bore ≤ φ28)	FA-FB-FC	249	214	152	□100	35	67
	GA-GB-GC-GD-GE-GF-GG-GH	249	214	152	□115	35	67
	HA-HC-HD	249	214	152	□130	35	67
	HB	259	214	162	□130	45	77
	HF	244	214	147	□130	30	62
	JA-JB-JC-JF	249	214	152	□150	35	67
	KA-KB-KE	249	214	152	□180	35	67
	LA	249	214	152	□200	35	67
	LB	259	214	162	□200	45	77
	MA	249	214	152	□220	35	67
	MB	259	214	162	□220	45	77
VRL-155-□-□-38** (Input shaft bore ≤ φ38)	HA	264	219	167	□130	45	82
	HB-HE	259	219	162	□130	40	77
	JA	264	219	167	□150	45	82
	KA-KB-KC	264	219	167	□180	45	82
	KD	299	219	202	□180	80	117
	KE	279	219	182	□180	60	97
	LB	274	219	177	□200	55	92
	MA-MB	264	219	167	□220	45	82
	MC	279	219	182	□220	60	97
	MD	274	219	177	□220	55	92
VRL-155-□-□-48** (Input shaft bore ≤ φ48)	KA	305	230	208	□180	75	118
	KB-KC	285	230	188	□180	55	98
	LA	285	230	188	□200	55	98
	MA	285	230	188	□220	55	98
	MB	305	230	208	□220	75	118

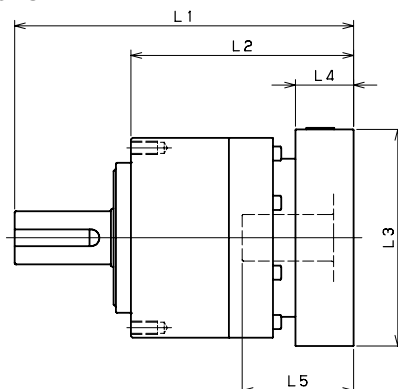
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-155 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRL-155-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	266.5	241.5	169.5	□80	25	50
	EB•ED	266.5	241.5	169.5	□90	25	50
	FA	266.5	241.5	169.5	□100	25	50
	FB	276.5	241.5	179.5	□100	35	60
	GB•GD•GJ	266.5	241.5	169.5	□115	25	50
	HA	266.5	241.5	169.5	□130	25	50
	HB	281.5	241.5	184.5	□130	40	65
	JA	276.5	241.5	179.5	□150	35	60
VRL-155-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	283.5	248.5	186.5	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	283.5	248.5	186.5	□115	35	67
	HA•HC•HD	283.5	248.5	186.5	□130	35	67
	HB	293.5	248.5	196.5	□130	45	77
	HF	278.5	248.5	181.5	□130	30	62
	JA•JB•JC•JF	283.5	248.5	186.5	□150	35	67
	KA•KB•KE	283.5	248.5	186.5	□180	35	67
	LA	283.5	248.5	186.5	□200	35	67
	LB	293.5	248.5	196.5	□200	45	77
	MA	283.5	248.5	186.5	□220	35	67
	MB	293.5	248.5	196.5	□220	45	77
VRL-155-□-□-38** (Input shaft bore ≤ φ38)	HA	298.5	253.5	201.5	□130	45	82
	HB•HE	293.5	253.5	196.5	□130	40	77
	JA	298.5	253.5	201.5	□150	45	82
	KA•KB•KC	298.5	253.5	201.5	□180	45	82
	KD	333.5	253.5	236.5	□180	80	117
	KE	313.5	253.5	216.5	□180	60	97
	LB	308.5	253.5	211.5	□200	55	92
	MA•MB	298.5	253.5	201.5	□220	45	82
	MC	313.5	253.5	216.5	□220	60	97
	MD	308.5	253.5	211.5	□220	55	92
VRL-155-□-□-48** (Input shaft bore ≤ φ48)	KA	339.5	264.5	242.5	□180	75	118
	KB•KC	319.5	264.5	222.5	□180	55	98
	LA	319.5	264.5	222.5	□200	55	98
	MA	319.5	264.5	222.5	□220	55	98
	MB	339.5	264.5	242.5	□220	75	118

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-205 – 1-Stage Specifications

Frame Size	205									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	750	500	500
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	1400	970	970
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2750	2200	2200
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	2.68							
Permitted Radial Load	[N]	*7	5600	6200	6700	7100	7400	7800	8100	8400
Permitted Axial Load	[N]	*8	4300	4900	5400	5800	6300	6600	7000	7300
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	44.000	28.000	22.000	18.000	16.000	15.000	14.000	14.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	66.000	50.000	44.000	41.000	38.000	37.000	36.000	36.000
Moment of Inertia ($\leq \emptyset 65$)	[kgcm ²]	--	130.000	110.000	100.000	100.000	99.000	97.000	97.000	96.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	175							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	39							

VRL-205 – 2-Stage Specifications

Frame Size	205									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	750	750
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	1400	1400
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2750	2750
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	1.39							
Permitted Radial Load	[N]	*7	9600	9800	11000	11000	12000	12000	13000	13000
Permitted Axial Load	[N]	*8	8700	8900	9900	11000	11000	12000	13000	13000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	4.700	5.400	4.400	4.200	4.900	3.200	4.100	3.200
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	12.000	13.000	12.000	12.000	13.000	11.000	12.000	11.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	34.000	35.000	34.000	34.000	35.000	33.000	34.000	33.000
Moment of Inertia ($\leq \emptyset 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	175							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	40							

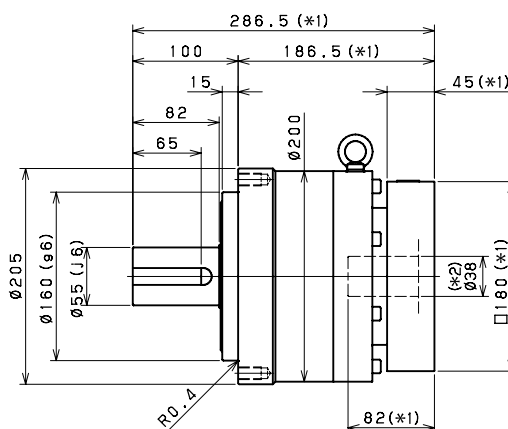
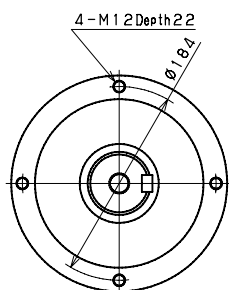
VRL-205 – 2-Stage Specifications

Frame Size	205								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	500
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	970
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2200
Nominal Input Speed	[rpm]	*4	1500						
Maximum Input Speed	[rpm]	*5	3000						
No Load Running Torque	[Nm]	*6	1.39						
Permitted Radial Load	[N]	*7	14000	14000	15000	15000	15000	15000	15000
Permitted Axial Load	[N]	*8	14000	14000	14000	14000	14000	14000	14000
Maximum Radial Load	[N]	*9	15000						
Maximum Axial Load	[N]	*10	14000						
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.000	3.100	3.100	3.100	3.100	3.100	3.100
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12.000	11.000	11.000	11.000	11.000	11.000	11.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	34.000	33.000	33.000	33.000	33.000	33.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	175						
Maximum Torsional Backlash	[arc/min]	--	≤ 5						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	40						

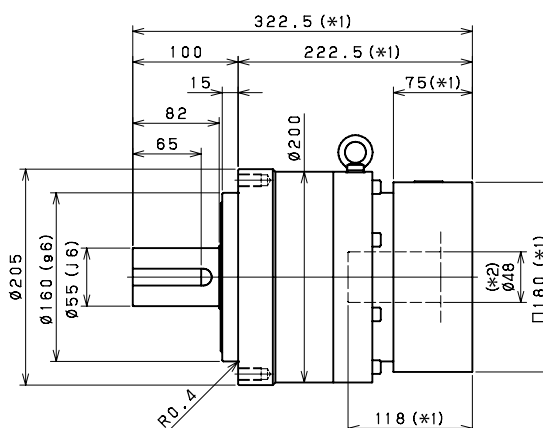
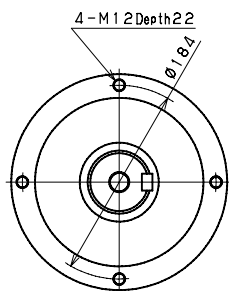
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRL205
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-205 – 1-Stage Dimensions

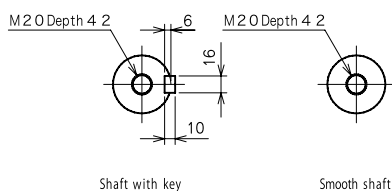
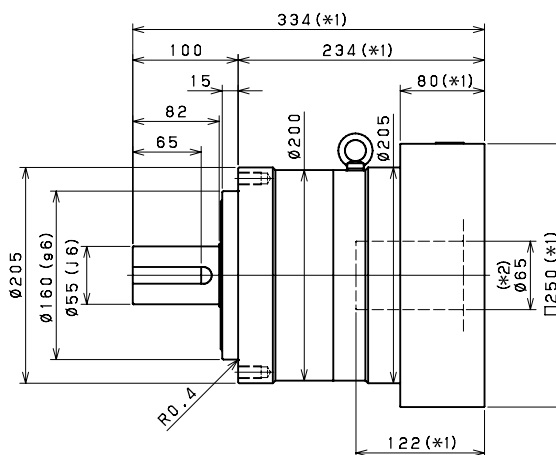
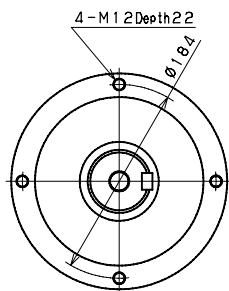
Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$



Input shaft bore $\leq \phi 65$

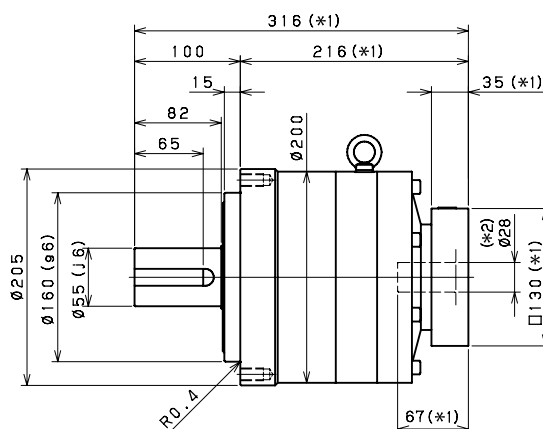
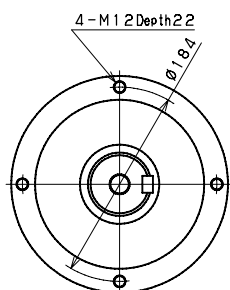


*1) Length will vary depending on motor

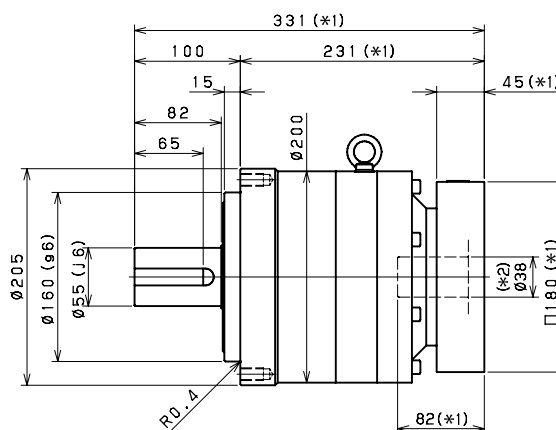
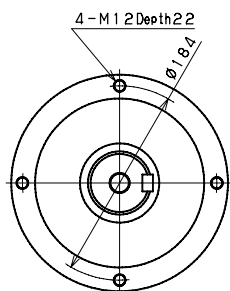
*2) Bushing will be inserted to adapt to motor shaft

VRL-205 – 2-Stage Dimensions

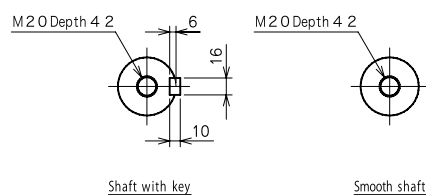
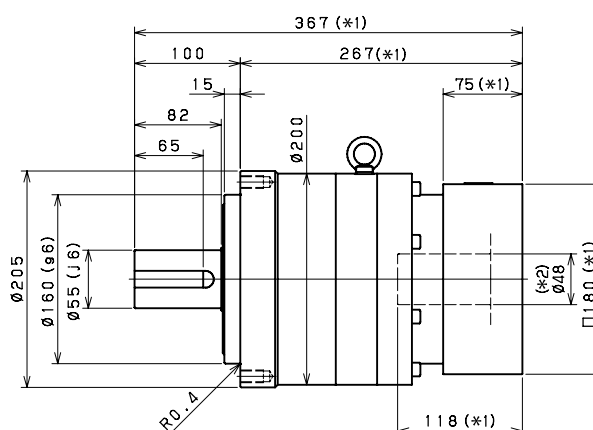
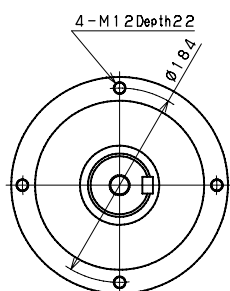
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



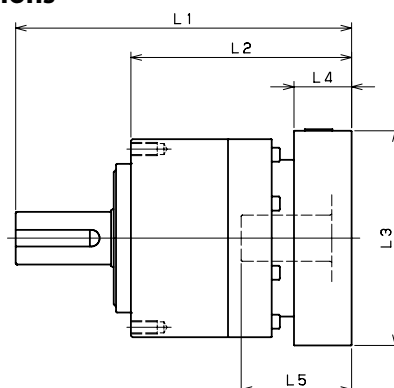
Input shaft bore $\leq \phi 48$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRL-205 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRL-205-□-□-28** (Input shaft bore ≤ φ28)	FA-FB-FC	--	--	--	--	--	--
	GA-GB-GC-GD-GE-GF-GG-GH	--	--	--	--	--	--
	HA-HC-HD	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	HF	--	--	--	--	--	--
	JA-JB-JC-JF	--	--	--	--	--	--
	KA-KB-KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA	--	--	--	--	--	--
	MB	--	--	--	--	--	--
VRL-205-□-□-38** (Input shaft bore ≤ φ38)	HA	286.5	241.5	186.5	□130	45	82
	HB-HE	281.5	241.5	181.5	□130	40	77
	JA	286.5	241.5	186.5	□150	45	82
	KA-KB-KC	286.5	241.5	186.5	□180	45	82
	KD	321.5	241.5	221.5	□180	80	117
	KE	301.5	241.5	201.5	□180	60	97
	LB	296.5	241.5	196.5	□200	55	92
	MA-MB	286.5	241.5	186.5	□220	45	82
	MC	301.5	241.5	201.5	□220	60	97
	MD	296.5	241.5	196.5	□220	55	92
	NA	286.5	241.5	186.5	□250	45	82
VRL-205-□-□-48** (Input shaft bore ≤ φ48)	KA	322.5	247.5	222.5	□180	75	118
	KB-KC	302.5	247.5	202.5	□180	55	98
	LA	302.5	247.5	202.5	□200	55	98
	MA	302.5	247.5	202.5	□220	55	98
	MB	322.5	247.5	222.5	□220	75	118
	NA	322.5	247.5	222.5	□250	75	118
	PA	322.5	247.5	222.5	□280	75	118
VRL-205-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	334	254	234	□220	80	122
	NA-NC	334	254	234	□250	80	122
	NB-ND	364	254	264	□250	110	152
	PA	354	254	254	□280	100	142
	PB	364	254	264	□280	110	152

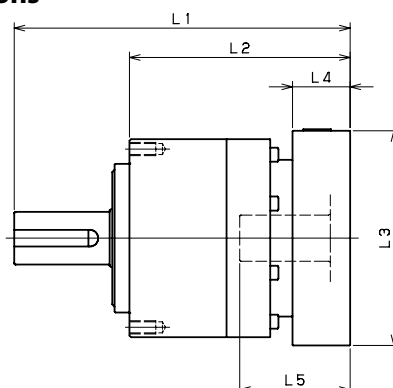
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRL-205 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRL-205-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	316	281	216	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	316	281	216	□115	35	67
	HA•HC•HD	316	281	216	□130	35	67
	HB	326	281	226	□130	45	77
	HF	311	281	211	□130	30	62
	JA•JB•JC•JF	316	281	216	□150	35	67
	KA•KB•KE	316	281	216	□180	35	67
	LA	316	281	216	□200	35	67
	LB	326	281	226	□200	45	77
	MA	316	281	216	□220	35	67
	MB	326	281	226	□220	45	77
	NA	331	286	231	□250	45	82
VRL-205-□-□-38** (Input shaft bore ≤ φ38)	HA	331	286	231	□130	45	82
	HB•HE	326	286	226	□130	40	77
	JA	331	286	231	□150	45	82
	KA•KB•KC	331	286	231	□180	45	82
	KD	366	286	266	□180	80	117
	KE	346	286	246	□180	60	97
	LB	341	286	241	□200	55	92
	MA•MB	331	286	231	□220	45	82
	MC	346	286	246	□220	60	97
	MD	341	286	241	□220	55	92
	NA	331	286	231	□250	45	82
	PA	367	292	267	□280	75	118
VRL-205-□-□-48** (Input shaft bore ≤ φ48)	KA	367	292	267	□180	75	118
	KB•KC	347	292	247	□180	55	98
	LA	347	292	247	□200	55	98
	MA	347	292	247	□220	55	98
	MB	367	292	267	□220	75	118
	NA	367	292	267	□250	75	118
	PA	367	292	267	□280	75	118
VRL-205-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	--	--	--	--	--	--
	NA•NC	--	--	--	--	--	--
	NB•ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-235 – 1-Stage Specifications

Frame Size	235									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1500	1000	1000
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	2200	1900	1600
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	5000	4000	4000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	2.92							
Permitted Radial Load	[N]	*7	5800	6400	6900	7300	7700	8000	8400	8700
Permitted Axial Load	[N]	*8	6400	7200	7900	8600	9200	9700	10000	11000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	90.000	62.000	52.000	47.000	42.000	40.000	39.000	38.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	150.000	120.000	110.000	110.000	100.000	100.000	99.000	98.000
Efficiency	[%]	*11	97							
Torsional Rigidity	[Nm/arc/min]	*12	400							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	55							

VRL-235 – 2-Stage Specifications

Frame Size	235									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1500	1500
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	1600	2300	2300
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	5000	5000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	1.14							
Permitted Radial Load	[N]	*7	9900	10000	11000	12000	12000	13000	13000	14000
Permitted Axial Load	[N]	*8	13000	13000	14000	14000	14000	14000	14000	14000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	14.000	16.000	14.000	14.000	15.000	12.000	13.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	36.000	37.000	35.000	35.000	36.000	34.000	35.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92							
Torsional Rigidity	[Nm/arc/min]	*12	400							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	57							

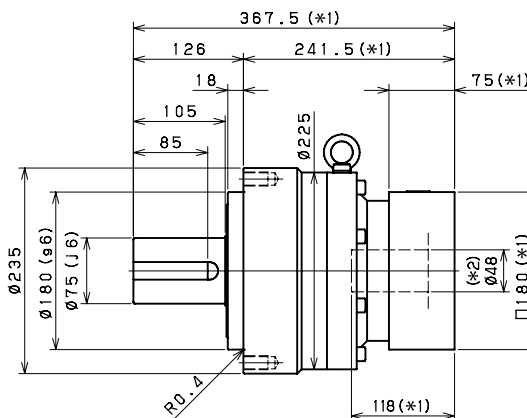
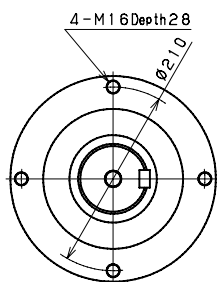
VRL-235 – 2-Stage Specifications

Frame Size	235								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1000
Maximum Acceleration Torque	[Nm]	*2	1300	2300	2300	2300	1800	1300	1200
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	4000
Nominal Input Speed	[rpm]	*4	1000						
Maximum Input Speed	[rpm]	*5	2000						
No Load Running Torque	[Nm]	*6	1.14						
Permitted Radial Load	[N]	*7	14000	15000	15000	15000	15000	15000	15000
Permitted Axial Load	[N]	*8	14000	14000	14000	14000	14000	14000	14000
Maximum Radial Load	[N]	*9	15000						
Maximum Axial Load	[N]	*10	14000						
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	13.000	12.000	12.000	12.000	12.000	12.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	35.000	33.000	33.000	33.000	33.000	33.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92						
Torsional Rigidity	[Nm/arc/min]	*12	400						
Maximum Torsional Backlash	[arc/min]	--	≤ 5						
Noise Level	[dB]	*13	61						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	57						

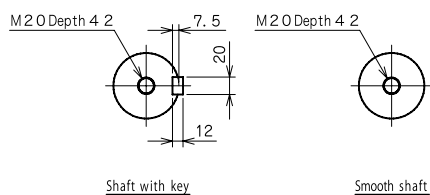
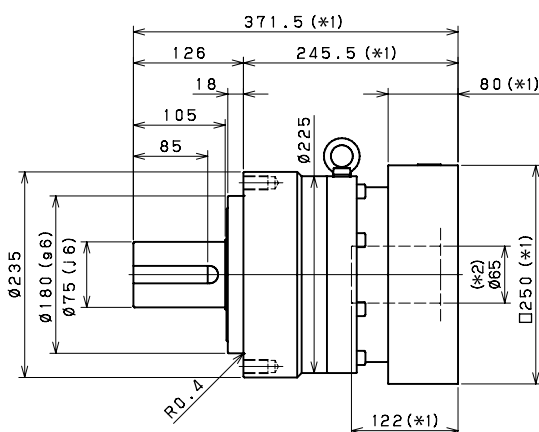
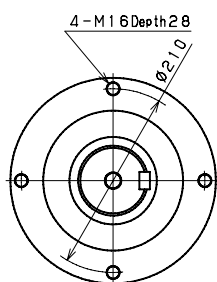
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRL235
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRL-235 – 1-Stage Dimensions

Input shaft bore $\leq \varnothing 48$



Input shaft bore $\leq \varnothing 65$

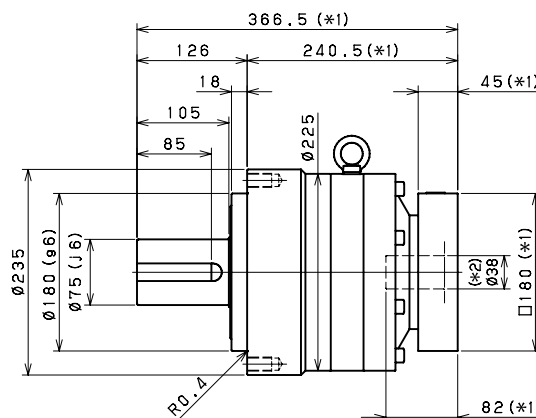
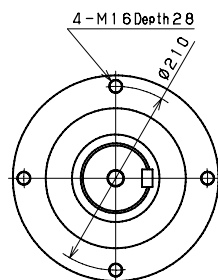


*1) Length will vary depending on motor

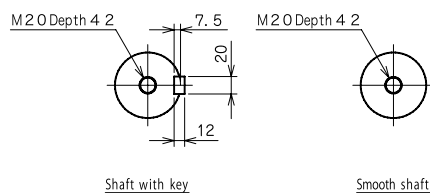
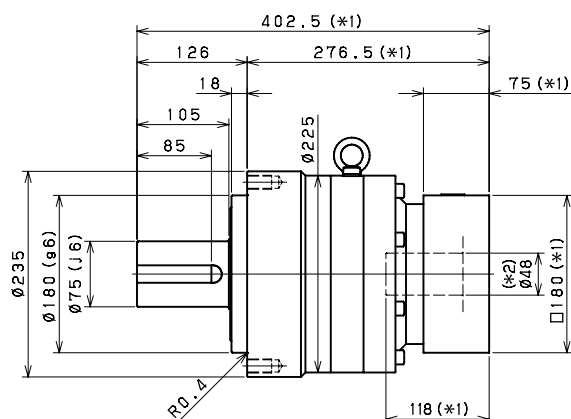
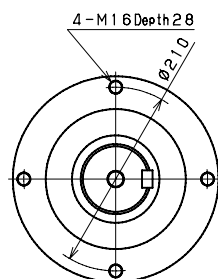
*2) Bushing will be inserted to adapt to motor shaft

VRL-235 – 2-Stage Dimensions

Input shaft bore $\leq \varnothing 38$



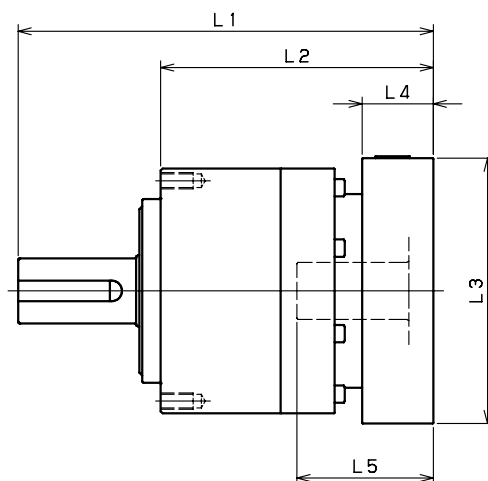
Input shaft bore $\leq \varnothing 48$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRL-235 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRL-235-□-□-38** (Input shaft bore ≤ φ38)	HA	--	--	--	--	--	--
	HB-HE	--	--	--	--	--	--
	JA	--	--	--	--	--	--
	KA-KB-KC	--	--	--	--	--	--
	KD	--	--	--	--	--	--
	KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA-MB	--	--	--	--	--	--
	MC	--	--	--	--	--	--
	MD	--	--	--	--	--	--
	NA	--	--	--	--	--	--
VRL-235-□-□-48** (Input shaft bore ≤ φ48)	KA	367.5	292.5	241.5	□180	75	118
	KB-KC	347.5	292.5	221.5	□180	55	98
	LA	347.5	292.5	221.5	□200	55	98
	MA	347.5	292.5	221.5	□220	55	98
	MB	367.5	292.5	241.5	□220	75	118
	NA	367.5	292.5	241.5	□250	75	118
	PA	367.5	292.5	241.5	□280	75	118
VRL-235-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	371.5	291.5	245.5	□220	80	122
	NA-NC	371.5	291.5	245.5	□250	80	122
	NB-ND	401.5	291.5	275.5	□250	110	152
	PA	391.5	291.5	265.5	□280	100	142
	PB	401.5	291.5	275.5	□280	110	152
	QA-QB	391.5	291.5	265.5	□320	100	142

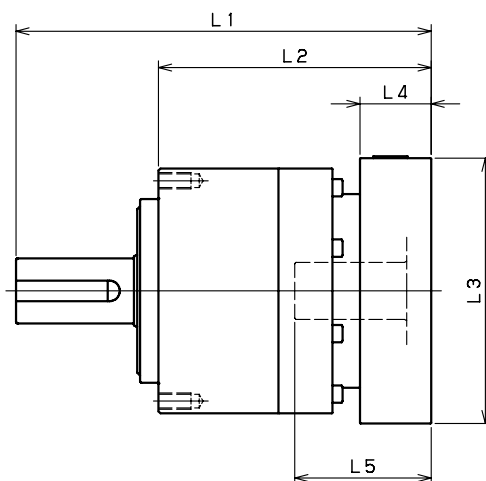
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRL-235 – 2-Stage Adapter Dimensions



Model number	***: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRL-235-□-□-38** (Input shaft bore ≤ φ38)	HA	366.5	321.5	240.5	□130	45	82
	HB+HE	361.5	321.5	235.5	□130	40	77
	JA	366.5	321.5	240.5	□150	45	82
	KA+KB+KC	366.5	321.5	240.5	□180	45	82
	KD	401.5	321.5	275.5	□180	80	117
	KE	381.5	321.5	255.5	□180	60	97
	LA	366.5	321.5	240.5	□200	45	82
	LB	376.5	321.5	250.5	□200	55	92
	MA+MB	366.5	321.5	240.5	□220	45	82
	MC	381.5	321.5	255.5	□220	60	97
	MD	376.5	321.5	250.5	□220	55	92
	NA	366.5	321.5	240.5	□250	45	82
VRL-235-□-□-48** (Input shaft bore ≤ φ48)	KA	402.5	327.5	276.5	□180	75	118
	KB+KC	382.5	327.5	256.5	□180	55	98
	LA	382.5	327.5	256.5	□200	55	98
	MA	382.5	327.5	256.5	□220	55	98
	MB	402.5	327.5	276.5	□220	75	118
	NA	402.5	327.5	276.5	□250	75	118
	PA	402.5	327.5	276.5	□280	75	118
VRL-235-□-□-65** (Input shaft bore ≤ φ65)	MA+MB+MC+MD	--	--	--	--	--	--
	NA+NC	--	--	--	--	--	--
	NB+ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--
	QA+QB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

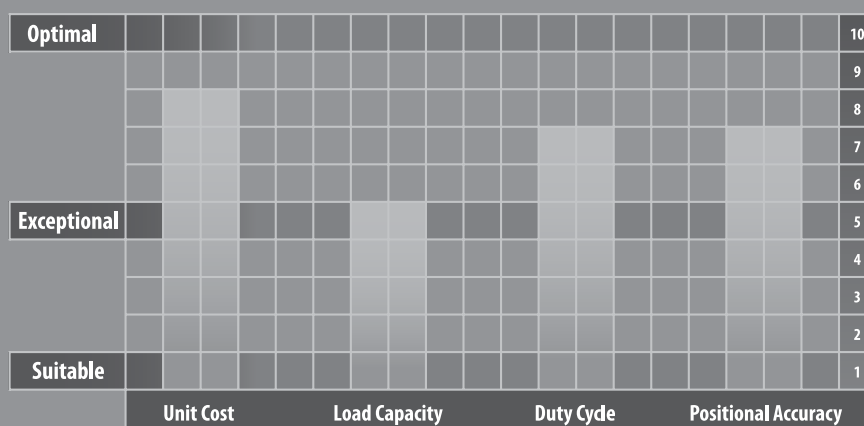
For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-SERIES

A valuable alternative for OEMs that need a high-performance gearbox, and prefers a flexible mounting design to make it easier to assemble the gearhead onto their machinery. The positional accuracy and torque handling capabilities are an ideal fit for packaging machinery, medical equipment, and custom assembly cell automation.

The VRB Series planetary gearbox and its standard mounting flange are a dimensional replacement for a few common competitive models. The maximum output torque for the series peaks at 2,300 Nm. The VRB provides a backlash rating of <3 arc/minutes as its standard, which means this series provides solid performance at an exceptional value.

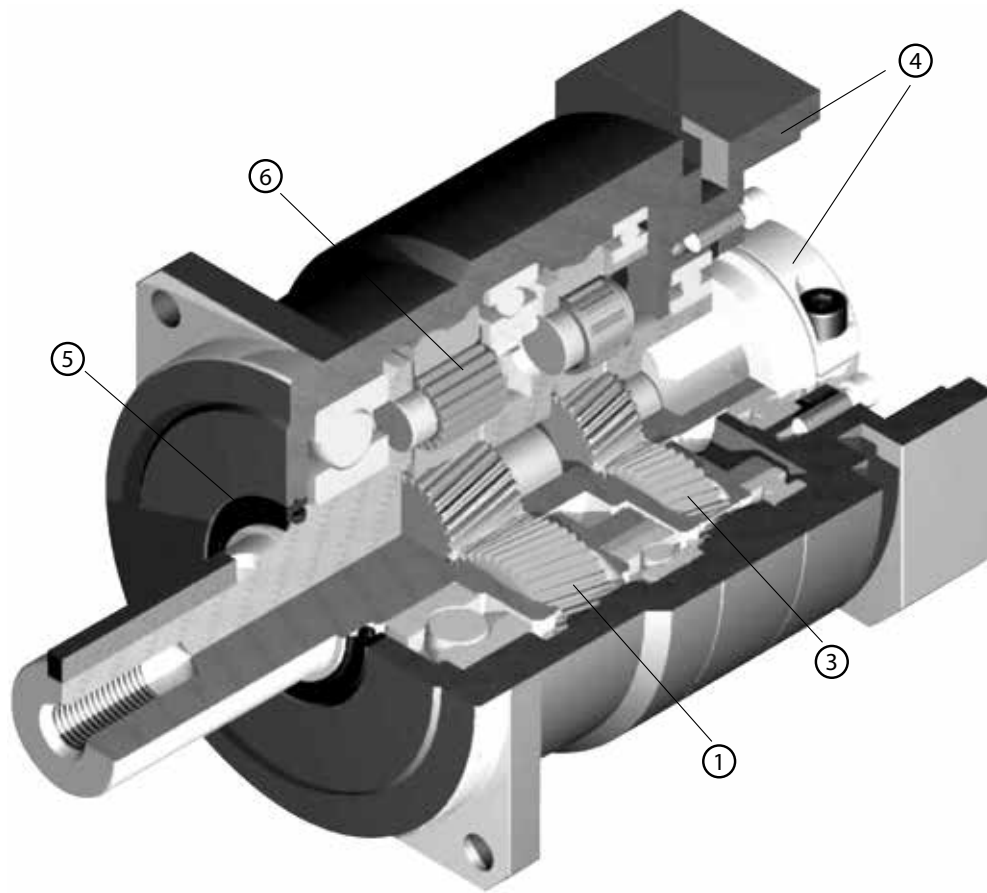




VRB-SERIES

- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thru-bolt mounting style
- Best-in-class backlash (≤ 3 arc/min)

VRB-Series – Features



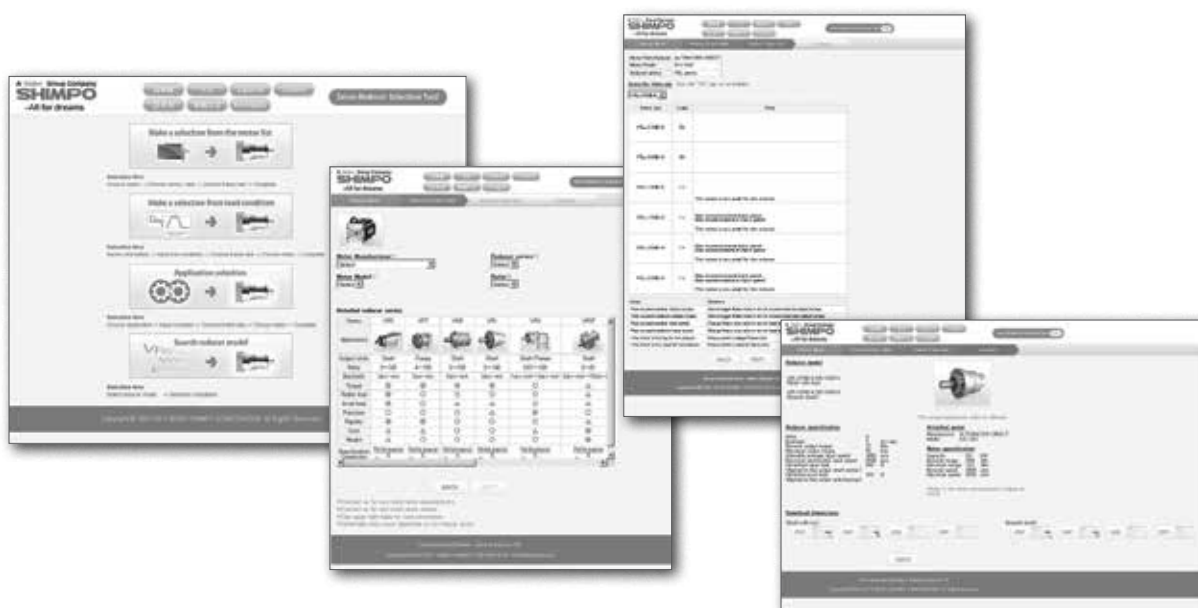
- ① Quiet operation: Helical cut gears contribute to reduced vibration and noise
- ② High precision: Standard backlash is 3 arc/min, ideal for higher levels of positional accuracy
- ③ High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ④ Adapter-bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

VRB-Series – Model Code

VR	B	-	090	-	7	-	K	3	-	19HB16
										* Adapter flange code
									Backlash	3... 3arc-min
								Output style	K... Shaft with key S... Smooth shaft	
								Ratio	Single: 3, 4, 5, 6, 7, 8, 9, 10 Double: 15, 16, 20, 25, 28, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100	
								Frame size:	042, 060, 090, 115, 140, 180, 220	
								Series name	VRB Series	
								Model name for ABLE reducer		

- *1) Adapter flange code
Adapter flange code varies depending on the motor
- *2) For all washdown intensive and food grade options, refer to pages 10 and 11

Contact us for additional information or refer to our online reducer selection tool.
Selection tool www.nidec-shimpo.co.jp/selection/eng



VRB-042 – 1-Stage Specifications

Frame Size	042									
Stage	1-Stage									
Ratio	Units	Notes	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	9	6	6
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	18	12	12
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	35	30	30
Nominal Input Speed	[rpm]	*4	4000							
Maximum Input Speed	[rpm]	*5	8000							
No Load Running Torque	[Nm]	*6	0.03							
Permitted Radial Load	[N]	*7	240	270	290	310	320	340	350	360
Permitted Axial Load	[N]	*8	270	300	330	360	380	410	430	450
Maximum Radial Load	[N]	*9	710							
Maximum Axial Load	[N]	*10	640							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.053	0.041	0.036	0.034	0.032	0.031	0.031	0.030
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.091	0.079	0.074	0.072	0.071	0.070	0.069	0.069
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	2							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	0.6							

VRB-042 – 2-Stage Specifications

Frame Size	042									
Stage	2-Stage									
Ratio	Units	Notes	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	6	9	9
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	12	18	18
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	30	35	35
Nominal Input Speed	[rpm]	*4	4000							
Maximum Input Speed	[rpm]	*5	8000							
No Load Running Torque	[Nm]	*6	0.01							
Permitted Radial Load	[N]	*7	410	420	460	490	510	520	550	570
Permitted Axial Load	[N]	*8	540	550	610	640	640	640	640	640
Maximum Radial Load	[N]	*9	710							
Maximum Axial Load	[N]	*10	640							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.035	0.038	0.034	0.034	0.038	0.030	0.034	0.030
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	2							
Maximum Torsional Backlash	[arc/min]	--	≤ 5							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	0.7							

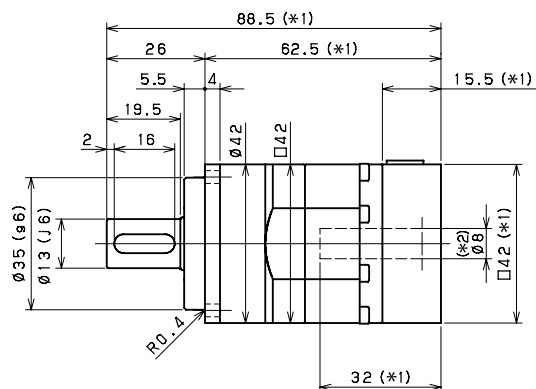
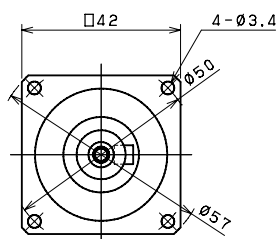
VRB-042 – 2-Stage Specifications

Frame Size	042								
Stage	2-Stage								
Ratio	Units	Notes	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	6	9	9	9	9	6	6
Maximum Acceleration Torque	[Nm]	*2	12	18	18	18	18	12	12
Emergency Stop Torque	[Nm]	*3	30	35	35	35	35	30	30
Nominal Input Speed	[rpm]	*4	4000						
Maximum Input Speed	[rpm]	*5	8000						
No Load Running Torque	[Nm]	*6	0.01						
Permitted Radial Load	[N]	*7	600	620	660	690	710	710	710
Permitted Axial Load	[N]	*8	640	640	640	640	640	640	640
Maximum Radial Load	[N]	*9	710						
Maximum Axial Load	[N]	*10	640						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.034	0.030	0.030	0.030	0.030	0.030	0.030
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	2						
Maximum Torsional Backlash	[arc/min]	--	≤ 5						
Noise Level	[dB]	*13	61						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	0.7						

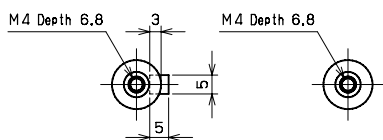
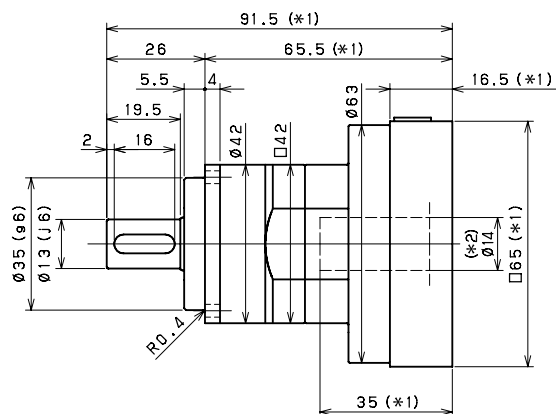
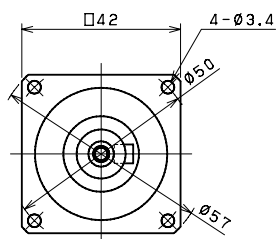
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 4,000 rpm for VRB 042
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-o42 – 1-Stage Dimensions

Input shaft bore $\leq \phi 8$

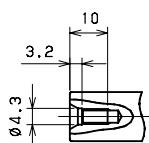


Input shaft bore $\leq \phi 14$



Shaft with key

Smooth shaft

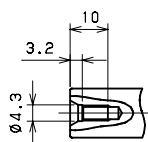
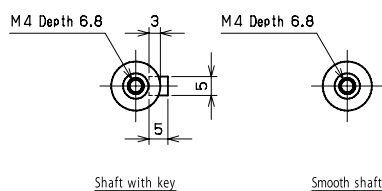
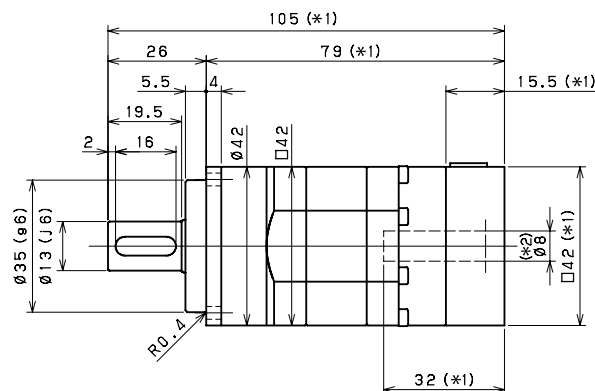
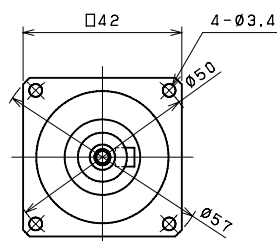


*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

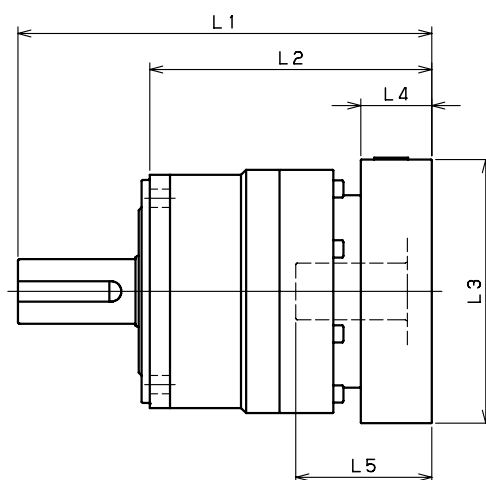
VRB-042 – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-042 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-042-□-□-S8** (Input shaft bore ≤ φ8)	ZA•ZC•ZD•ZF•ZG•ZL•ZM•ZN•ZQ	88.5	73	64	□42	15.5	32
	ZB•ZE•ZH•ZJ•ZK	93.5	73	69	□42	20.5	37
	BA•BB•BD•BE•BG•BH•BJ	88.5	73	64	□60	15.5	32
	BC•BF	93.5	73	69	□60	20.5	37
VRB-042-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BJ•BK•BP	91.5	75	67	□65	16.5	35
	BC•BH•BM•BN	96.5	75	72	□65	21.5	40
	BL	101.5	75	77	□65	26.5	45

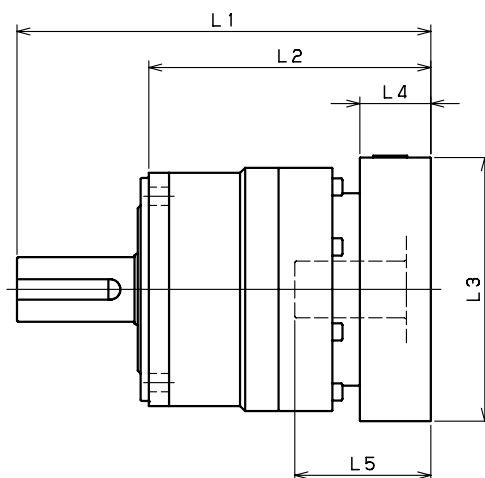
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-042 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-042-□-□-S8** (Input shaft bore ≤ φ8)	ZA·ZC·ZD·ZF·ZG·ZL·ZM·ZN·ZQ	105	89.5	80.5	□42	15.5	32
	ZB·ZE·ZH·ZJ·ZK	110	89.5	85.5	□42	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	105	89.5	80.5	□60	15.5	32
	BC·BF	110	89.5	85.5	□60	20.5	37
VRB-042-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BJ·BK·BP	--	--	--	--	--	--
	BC·BH·BM·BN	--	--	--	--	--	--
	BL	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-o6o – 1-Stage Specifications

Frame Size	060									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.15							
Permitted Radial Load	[N]	*7	430	470	510	540	570	600	620	640
Permitted Axial Load	[N]	*8	310	360	390	430	460	480	510	530
Maximum Radial Load	[N]	*9	1200							
Maximum Axial Load	[N]	*10	1100							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.140	0.095	0.077	0.068	0.062	0.059	0.057	0.056
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.220	0.170	0.160	0.150	0.140	0.140	0.140	0.140
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.430	0.380	0.360	0.360	0.350	0.350	0.340	0.340
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	3							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	66							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.4							

VRB-o6o – 2-Stage Specifications

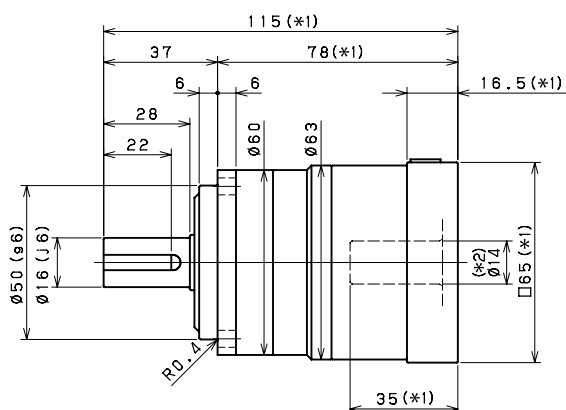
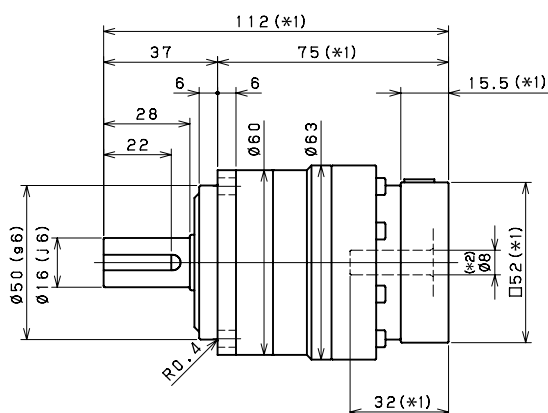
Frame Size	060									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	27	27
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	50	50
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	100	100
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.04							
Permitted Radial Load	[N]	*7	740	750	810	870	910	930	980	1000
Permitted Axial Load	[N]	*8	630	650	720	790	830	860	920	970
Maximum Radial Load	[N]	*9	1200							
Maximum Axial Load	[N]	*10	1100							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.055	0.057	0.054	0.053	0.055	0.049	0.053	0.049
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.140	0.140	0.130	0.130	0.140	0.130	0.130	0.130
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	3							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	66							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.6							

VRB-o6o – 2-Stage Specifications

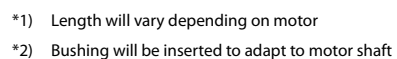
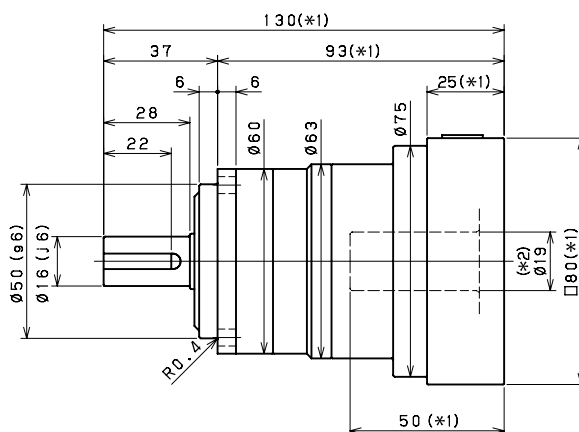
Frame Size	060								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.04						
Permitted Radial Load	[N]	*7	1100	1100	1200	1200	1200	1200	1200
Permitted Axial Load	[N]	*8	1000	1100	1100	1100	1100	1100	1100
Maximum Radial Load	[N]	*9	1200						
Maximum Axial Load	[N]	*10	1100						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.053	0.049	0.049	0.049	0.049	0.049	0.049
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.130	0.130	0.130	0.130	0.130	0.130	0.130
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	3						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	66						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	1.6						

- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB o6o
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

Input shaft bore $\leq \varphi 8$

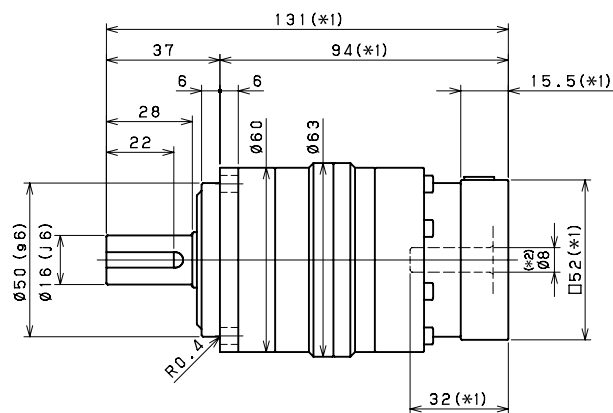
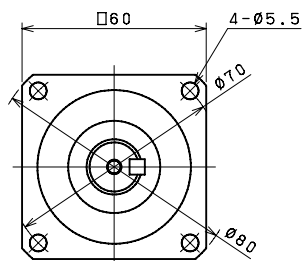


Technical drawing of a square plate with a side length of 60. The plate features a central hole with a diameter of 70 and four corner holes, each with a diameter of 5.5. The distance from the center of the square to the center of each corner hole is 60.

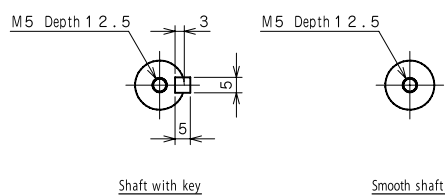
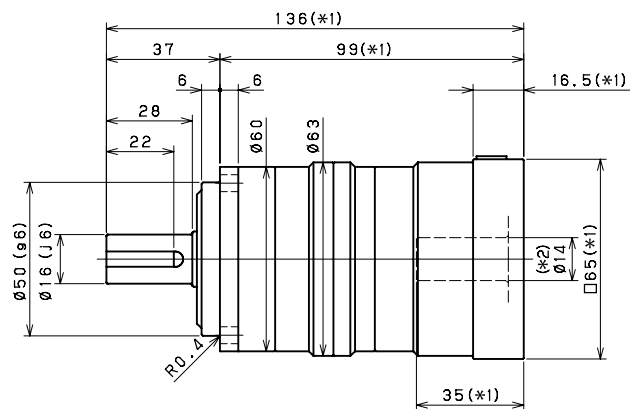
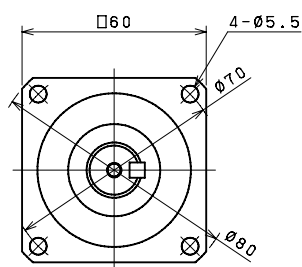


VRB-o60 – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$

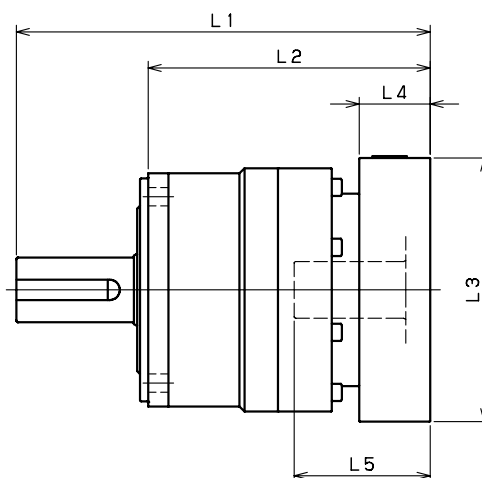


Input shaft bore $\leq \phi 14$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRB-o6o – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-060-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	112	96.5	75	□52	15.5	32
	AB·AE·AH·AJ·AK	117	96.5	80	□52	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	112	96.5	75	□60	15.5	32
	BC·BF	117	96.5	80	□60	20.5	37
	CA	117	96.5	80	□70	20.5	37
VRB-060-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	115	98.5	78	□65	16.5	35
	BC·BH·BM·BN	120	98.5	83	□65	21.5	40
	BL	125	98.5	88	□65	26.5	45
	CA·CC	115	98.5	78	□70	16.5	35
	CB	120	98.5	83	□70	21.5	40
	DA·DB·DC·DD·DF·DH·DJ	115	98.5	78	□80	16.5	35
	DE·DL	120	98.5	83	□80	21.5	40
	DG·DK	125	98.5	88	□80	26.5	45
	EA·EB·EC·EF·EG·EK·EL	115	98.5	78	□90	16.5	35
	EJ·EM	120	98.5	83	□90	21.5	40
	ED·EE·EH	125	98.5	88	□90	26.5	45
	FA	115	98.5	78	□100	16.5	35
	FB	125	98.5	88	□100	26.5	45
VRB-060-□-□-19** (Input shaft bore ≤ φ19)	DA·DB·DC	130	105	93	□80	25	50
	DD	140	105	103	□80	35	60
	DE	135	105	98	□80	30	55
	EA	135	105	98	□90	30	55
	EB·ED	130	105	93	□90	25	50
	EC	140	105	103	□90	35	60
	FA	130	105	93	□100	25	50
	FB	140	105	103	□100	35	60

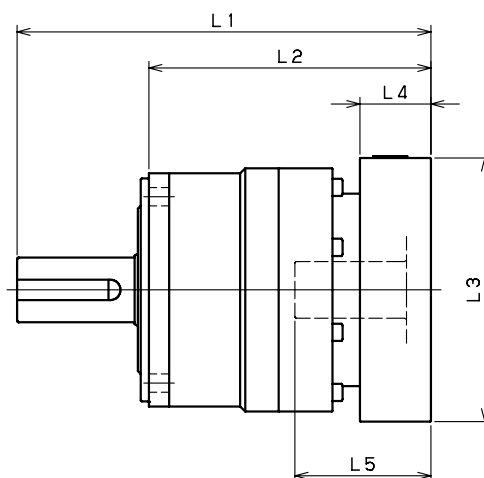
*1) Single reduction : 1/3 ~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-o6o – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-060-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	131	115.5	94	□52	15.5	32
	AB·AE·AH·AJ·AK	136	115.5	99	□52	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	131	115.5	94	□60	15.5	32
	BC·BF	136	115.5	99	□60	20.5	37
	CA	136	115.5	99	□70	20.5	37
VRB-060-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	136	119.5	99	□65	16.5	35
	BC·BH·BM·BN	141	119.5	104	□65	21.5	40
	BL	146	119.5	109	□65	26.5	45
	CA·CC	136	119.5	99	□70	16.5	35
	CB	141	119.5	104	□70	21.5	40
	DA·DB·DC·DD·DF·DH·DJ	136	119.5	99	□80	16.5	35
	DE·DL	141	119.5	104	□80	21.5	40
	DG·DK	146	119.5	109	□80	26.5	45
	EA·EB·EC·EF·EG·EK·EL	136	119.5	99	□90	16.5	35
	EJ·EM	141	119.5	104	□90	21.5	40
	ED·EE·EH	146	119.5	109	□90	26.5	45
	FA	136	119.5	99	□100	16.5	35
	FB	146	119.5	109	□100	26.5	45
VRB-060-□-□-19** (Input shaft bore ≤ φ19)	DA·DB·DC	151	126	114	□80	25	50
	DD	161	126	124	□80	35	60
	DE	156	126	119	□80	30	55
	EA	156	126	119	□90	30	55
	EB·ED	151	126	114	□90	25	50
	EC	161	126	124	□90	35	60
	FA	151	126	114	□100	25	50
	FB	161	126	124	□100	35	60

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-090 – 1-Stage Specifications

Frame Size	090									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.35							
Permitted Radial Load	[N]	*7	810	890	960	1000	1100	1100	1200	1200
Permitted Axial Load	[N]	*8	930	1100	1200	1300	1300	1400	1500	1600
Maximum Radial Load	[N]	*9	2400							
Maximum Axial Load	[N]	*10	2200							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.720	0.490	0.400	0.360	0.320	0.310	0.290	0.290
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	1.200	0.950	0.860	0.820	0.790	0.770	0.760	0.750
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	3.200	3.000	2.900	2.800	2.800	2.800	2.800	2.800
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	10							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	3.7							

VRB-090 – 2-Stage Specifications

Frame Size	090									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	75	75
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	125	125
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	250	250
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.06							
Permitted Radial Load	[N]	*7	1400	1400	1500	1600	1700	1700	1800	1900
Permitted Axial Load	[N]	*8	1900	1900	2100	2200	2200	2200	2200	2200
Maximum Radial Load	[N]	*9	2400							
Maximum Axial Load	[N]	*10	2200							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.130	0.150	0.130	0.120	0.140	0.100	0.120	0.099
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.280	0.300	0.280	0.280	0.290	0.250	0.270	0.250
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.720	0.740	0.720	0.710	0.730	0.700	0.710	0.700
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	10							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	4.2							

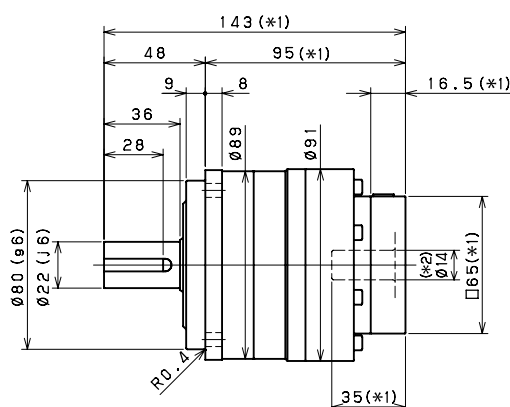
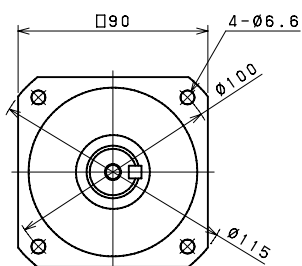
VRB-090 – 2-Stage Specifications

Frame Size	090								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.06						
Permitted Radial Load	[N]	*7	2000	2100	2200	2300	2400	2400	2400
Permitted Axial Load	[N]	*8	2200	2200	2200	2200	2200	2200	2200
Maximum Radial Load	[N]	*9	2400						
Maximum Axial Load	[N]	*10	2200						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.120	0.098	0.098	0.097	0.097	0.097	0.097
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.270	0.250	0.250	0.250	0.250	0.250	0.250
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.710	0.690	0.690	0.690	0.690	0.690	0.690
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	10						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	4.2						

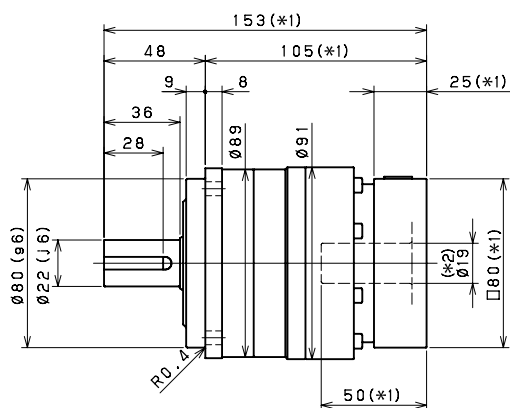
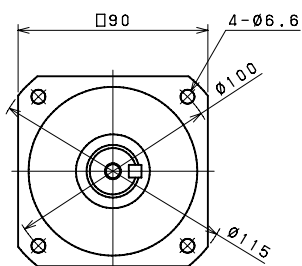
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB 090
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-090 – 1-Stage Dimensions

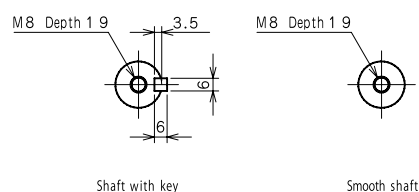
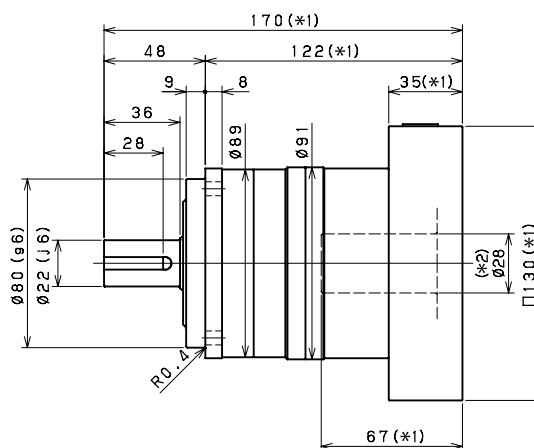
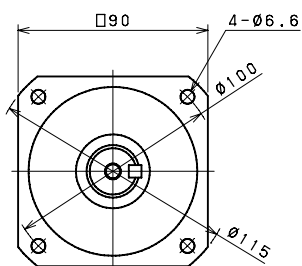
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$

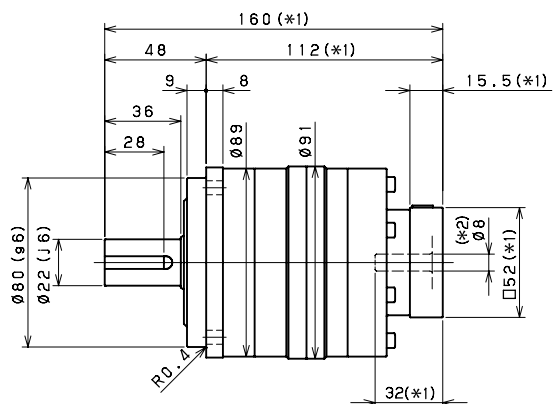
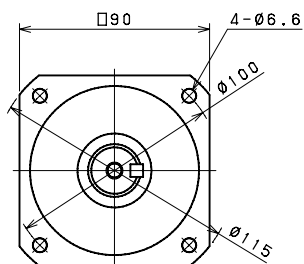


*1) Length will vary depending on motor

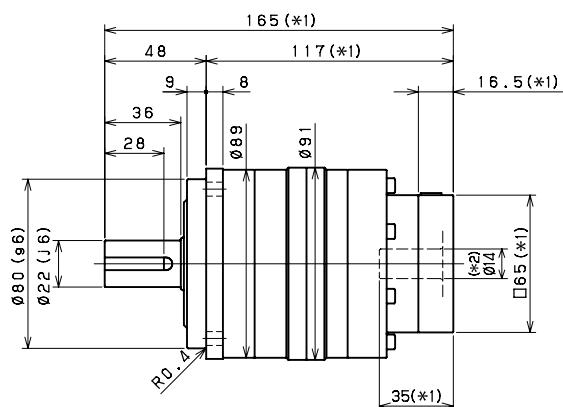
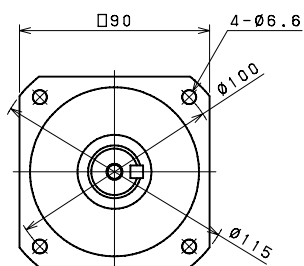
*2) Bushing will be inserted to adapt to motor shaft

VRB-090 – 2-Stage Dimensions

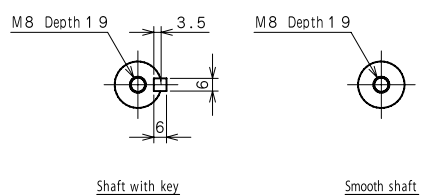
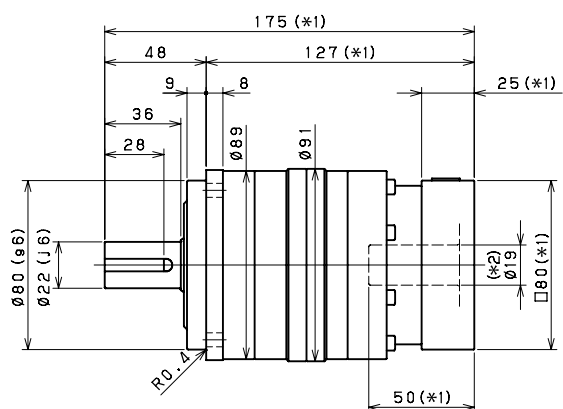
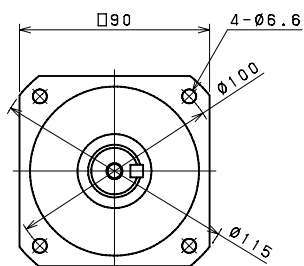
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



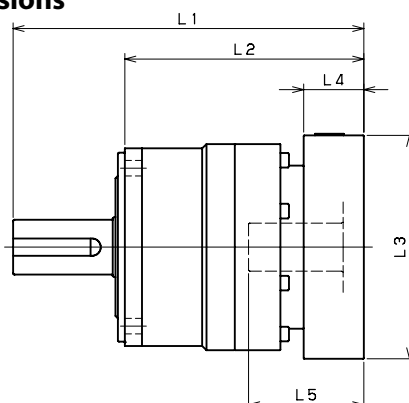
Input shaft bore $\leq \varnothing 19$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-090 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-090-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	--	--	--	--	--	--
	AB·AE·AH·AJ·AK	--	--	--	--	--	--
	BA·BB·BD·BE·BG·BH·BJ	--	--	--	--	--	--
	CA	--	--	--	--	--	--
VRB-090-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	143	126.5	95	□65	16.5	35
	BC·BH·BM·BN	148	126.5	100	□65	21.5	40
	CA·CC	143	126.5	95	□70	16.5	35
	DA·DB·DC·DD·DF·DH·DJ	143	126.5	95	□80	16.5	35
	EA·EB·EC·EF·EG·EK·EL	143	126.5	95	□90	16.5	35
	FA	143	126.5	95	□100	16.5	35
	FB	153	126.5	105	□100	26.5	45
VRB-090-□-□-19** (Input shaft bore ≤ φ19)	JA	158	126.5	110	□150	31.5	50
	DA·DB·DC	153	128	105	□80	25	50
	EB·ED	153	128	105	□90	25	50
	FA	153	128	105	□100	25	50
	FB	163	128	115	□100	35	60
	GA·GC·GH	158	128	110	□115	30	55
	GB·GD·GJ	153	128	105	□115	25	50
	GE·GF	163	128	115	□115	35	60
	HA	153	128	105	□130	25	50
	HB	168	128	120	□130	40	65
	HC·HD·HE	158	128	110	□130	30	55
	JA	163	128	115	□150	35	60
VRB-090-□-□-28** (Input shaft bore ≤ φ28)	JB	168	128	120	□150	40	65
	FA·FB·FC	170	135	122	□100	35	67
	FD·FE	165	135	117	□100	30	62
	GA·GB·GC·GD·GE·GF·GG·GH	170	135	122	□115	35	67
	HA·HC·HD	170	135	122	□130	35	67
	HB	180	135	132	□130	45	77
	HE	185	135	137	□130	50	82
	HF	165	135	117	□130	30	62
	JA·JB·JC·JF	170	135	122	□150	35	67
	JD	190	135	142	□150	55	87
	JE	180	135	132	□150	45	77

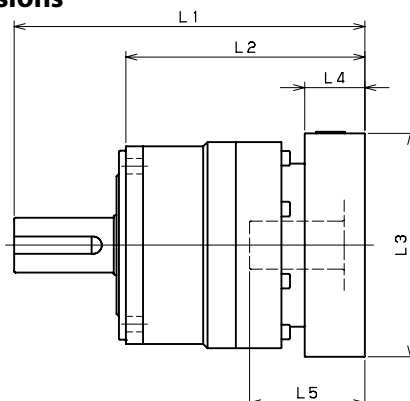
*1) Single reduction : 1/3 ~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-090 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-090-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	160	144.5	112	□52	15.5	32
	AB·AE·AH·AJ·AK	165	144.5	117	□52	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	160	144.5	112	□60	15.5	32
	CA	165	144.5	117	□70	20.5	37
VRB-090-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	165	148.5	117	□65	16.5	35
	BC·BH·BM·BN	170	148.5	122	□65	21.5	40
	CA·CC	165	148.5	117	□70	16.5	35
	DA·DB·DC·DD·DF·DH·DJ	165	148.5	117	□80	16.5	35
	EA·EB·EC·EF·EG·EK·EL	165	148.5	117	□90	16.5	35
	FA	165	148.5	117	□100	16.5	35
	FB	175	148.5	127	□100	26.5	45
	JA	180	148.5	132	□150	31.5	50
VRB-090-□-□-19** (Input shaft bore ≤ φ19)	DA·DB·DC	175	150	127	□80	25	50
	EB·ED	175	150	127	□90	25	50
	FA	175	150	127	□100	25	50
	FB	185	150	137	□100	35	60
	GA·GC·GH	180	150	132	□115	30	55
	GB·GD·GJ	175	150	127	□115	25	50
	GE·GF	185	150	137	□115	35	60
	HA	175	150	127	□130	25	50
	HB	190	150	142	□130	40	65
	HC·HD·HE	180	150	132	□130	30	55
	JA	185	150	137	□150	35	60
	JB	190	150	142	□150	40	65
VRB-090-□-□-28** (Input shaft bore ≤ φ28)	FA·FB·FC	194	159	146	□100	35	67
	FD·FE	189	159	141	□100	30	62
	GA·GB·GC·GD·GE·GF·GG·GH	194	159	146	□115	35	67
	HA·HC·HD	194	159	146	□130	35	67
	HB	204	159	156	□130	45	77
	HE	209	159	161	□130	50	82
	HF	189	159	141	□130	30	62
	JA·JB·JC·JF	194	159	146	□150	35	67
	JD	214	159	166	□150	55	87
	JE	204	159	156	□150	45	77

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-115 – 1-Stage Specifications

Frame Size	115									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	120	120	180	180	180	180	120	120
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	330	225	225
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	625	500	500
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	1.30							
Permitted Radial Load	[N]	*7	1300	1500	1600	1700	1800	1900	1900	2000
Permitted Axial Load	[N]	*8	1500	1700	1900	2000	2100	2300	2400	2500
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	3.300	2.000	1.600	1.300	1.100	1.000	0.980	0.950
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	5.300	4.100	3.600	3.300	3.200	3.100	3.000	3.000
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	13.000	12.000	11.000	11.000	11.000	11.000	11.000	11.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	31							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	71							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	8							

VRB-115 – 2-Stage Specifications

Frame Size	115									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	180	180
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	330	330
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	625	625
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.42							
Permitted Radial Load	[N]	*7	2300	2300	2500	2700	2800	2900	3000	3200
Permitted Axial Load	[N]	*8	3000	3100	3400	3700	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.430	0.480	0.400	0.380	0.440	0.290	0.370	0.280
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.860	0.920	0.830	0.820	0.880	0.740	0.810	0.730
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	2.800	2.900	2.800	2.800	2.800	2.700	2.700	2.700
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	31							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	71							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	8.9							

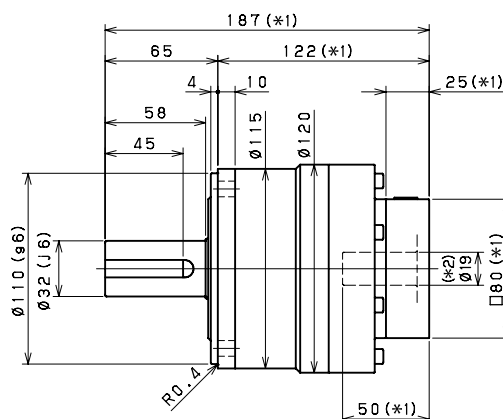
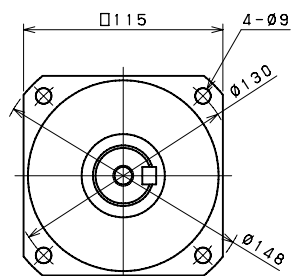
VRB-115 – 2-Stage Specifications

Frame Size	115								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	120
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	225
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	500
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.42						
Permitted Radial Load	[N]	*7	3300	3400	3600	3800	4000	4200	4300
Permitted Axial Load	[N]	*8	3900	3900	3900	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300						
Maximum Axial Load	[N]	*10	3900						
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.370	0.280	0.280	0.280	0.280	0.270	0.270
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.800	0.730	0.730	0.730	0.730	0.730	0.730
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	31						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	71						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	8.9						

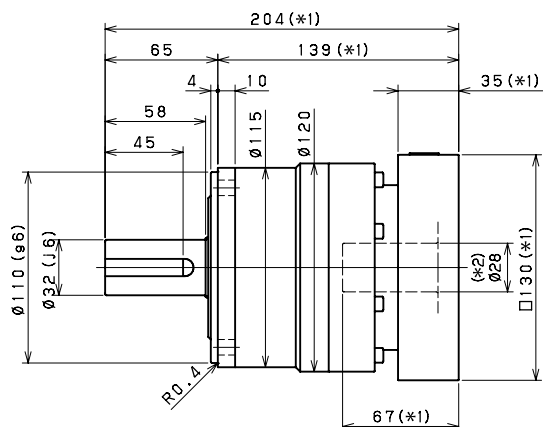
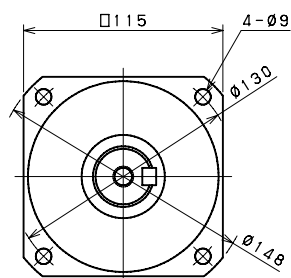
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRB 115
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-115 – 1-Stage Dimensions

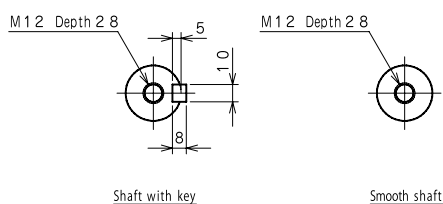
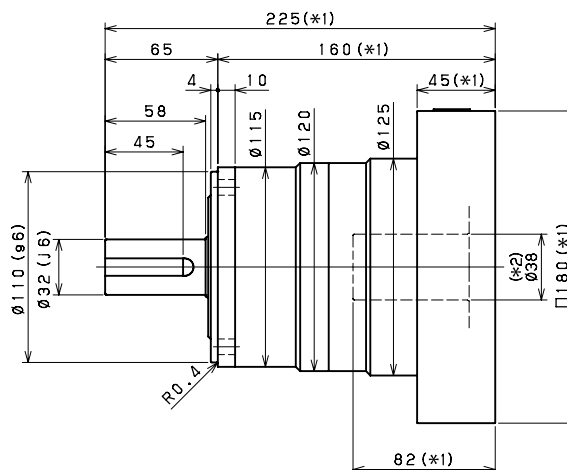
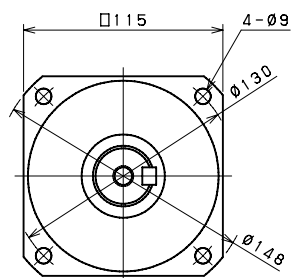
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$

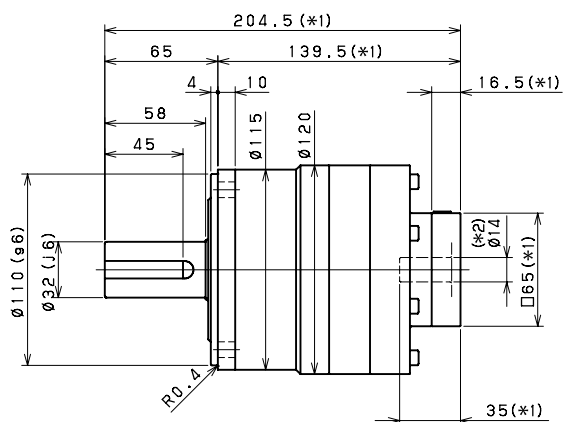
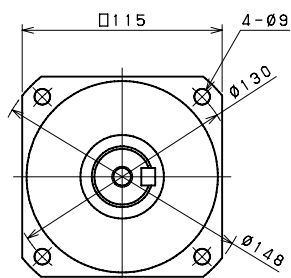


*1) Length will vary depending on motor

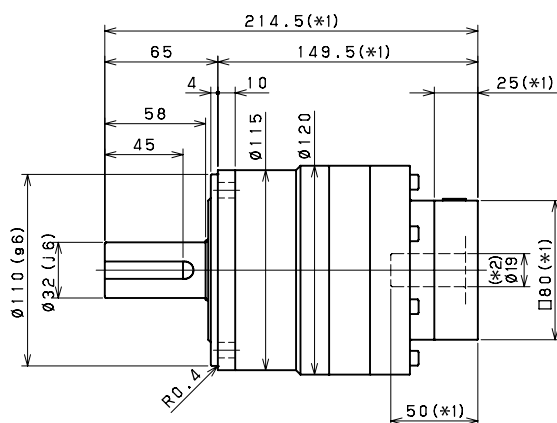
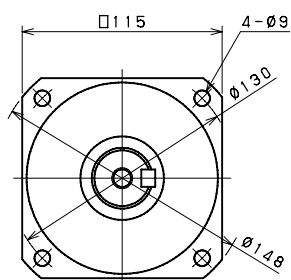
*2) Bushing will be inserted to adapt to motor shaft

VRB-115 – 2-Stage Dimensions

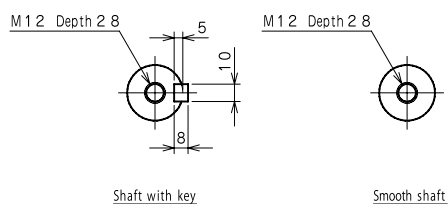
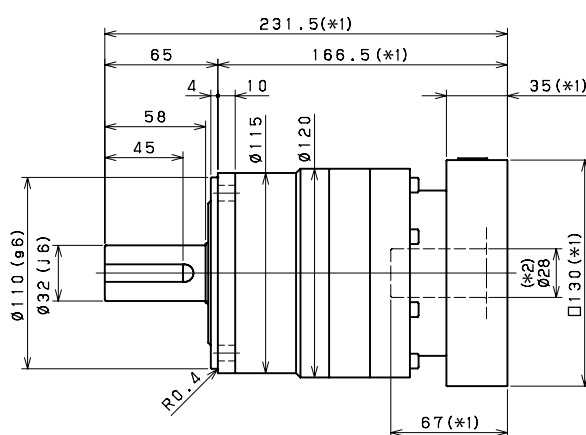
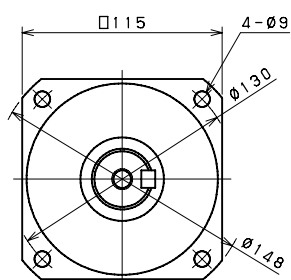
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



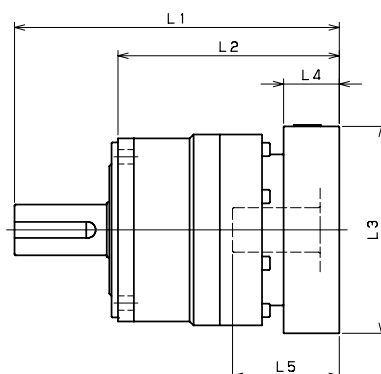
Input shaft bore $\leq \phi 28$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-115 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-115-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	--	--	--	--	--	--
	BC•BH•BM•BN	--	--	--	--	--	--
	CA•CC	--	--	--	--	--	--
	DA•DB•DC•DD•DF•DH•DJ	--	--	--	--	--	--
	EA•EB•EC•EF•EG•EK•EL	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	JA	--	--	--	--	--	--
VRB-115-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	187	162	122	□80	25	50
	EB•ED	187	162	122	□90	25	50
	FA	187	162	122	□100	25	50
	FB	197	162	132	□100	35	60
	GB•GD•GJ	187	162	122	□115	25	50
	HA	187	162	122	□130	25	50
	HB	202	162	137	□130	40	65
	JA	197	162	132	□150	35	60
VRB-115-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	204	169	139	□100	35	67
	FD•FE	199	169	134	□100	30	62
	GA•GB•GC•GD•GE•GF•GG•GH	204	169	139	□115	35	67
	HA•HC•HD	204	169	139	□130	35	67
	HB	214	169	149	□130	45	77
	HE	219	169	154	□130	50	82
	HF	199	169	134	□130	30	62
	JA•JB•JC•JF	204	169	139	□150	35	67
	JD	224	169	159	□150	55	87
	JE	214	169	149	□150	45	77
	KA•KB•KE	204	169	139	□180	35	67
	KD	214	169	149	□180	45	77
VRB-115-□-□-38** (Input shaft bore ≤ φ38)	HA	225	180	160	□130	45	82
	HB•HE	220	180	155	□130	40	77
	JA	225	180	160	□150	45	82
	KA•KB•KC	225	180	160	□180	45	82
	KD	260	180	195	□180	80	117
	KE	240	180	175	□180	60	97

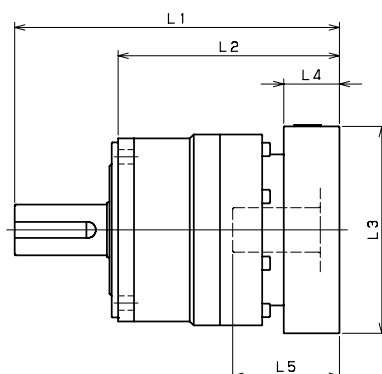
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-115 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-115-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	204.5	188	139.5	□65	16.5	35
	BC•BH•BM•BN	209.5	188	144.5	□65	21.5	40
	CA•CC	204.5	188	139.5	□70	16.5	35
	DA•DB•DC•DD•DF•DH•DJ	204.5	188	139.5	□80	16.5	35
	EA•EB•EC•EF•EG•EK•EL	204.5	188	139.5	□90	16.5	35
	FA	204.5	188	139.5	□100	16.5	35
	FB	214.5	188	149.5	□100	26.5	45
	JA	219.5	188	154.5	□150	31.5	50
VRB-115-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	214.5	189.5	149.5	□80	25	50
	EB•ED	214.5	189.5	149.5	□90	25	50
	FA	214.5	189.5	149.5	□100	25	50
	FB	224.5	189.5	159.5	□100	35	60
	GB•GD•GJ	214.5	189.5	149.5	□115	25	50
	HA	214.5	189.5	149.5	□130	25	50
	HB	229.5	189.5	164.5	□130	40	65
	JA	224.5	189.5	159.5	□150	35	60
VRB-115-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	231.5	196.5	166.5	□100	35	67
	FD•FE	226.5	196.5	161.5	□100	30	62
	GA•GB•GC•GD•GE•GF•GG•GH	231.5	196.5	166.5	□115	35	67
	HA•HC•HD	231.5	196.5	166.5	□130	35	67
	HB	241.5	196.5	176.5	□130	45	77
	HE	246.5	196.5	181.5	□130	50	82
	HF	226.5	196.5	161.5	□130	30	62
	JA•JB•JC•JF	231.5	196.5	166.5	□150	35	67
	JD	251.5	196.5	186.5	□150	55	87
	JE	241.5	196.5	176.5	□150	45	77
	KA•KB•KE	231.5	196.5	166.5	□180	35	67
	KD	241.5	196.5	176.5	□180	45	77
VRB-115-□-□-38** (Input shaft bore ≤ φ38)	HA	249	204	184	□130	45	82
	HB•HE	244	204	179	□130	40	77
	JA	249	204	184	□150	45	82
	KA•KB•KC	249	204	184	□180	45	82
	KD	284	204	219	□180	80	117
	KE	264	204	199	□180	60	97

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRB-140 – 1-Stage Specifications

Frame Size	140									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	240	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	1.63							
Permitted Radial Load	[N]	*7	3200	3500	3800	4000	4200	4400	4600	4700
Permitted Axial Load	[N]	*8	2400	2700	3000	3300	3500	3700	3900	4100
Maximum Radial Load	[N]	*9	9100							
Maximum Axial Load	[N]	*10	8200							
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	12.000	7.500	5.800	4.900	4.100	3.800	3.600	3.500
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	20.000	15.000	14.000	13.000	12.000	12.000	11.000	11.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	42.000	37.000	36.000	35.000	34.000	34.000	34.000	34.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	60							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	16							

VRB-140 – 2-Stage Specifications

Frame Size	140									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	360	360
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	700	700
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1250	1250
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	0.56							
Permitted Radial Load	[N]	*7	5400	5500	6000	6400	6700	6800	7200	7500
Permitted Axial Load	[N]	*8	4900	5000	5500	6100	6400	6600	7000	7500
Maximum Radial Load	[N]	*9	9100							
Maximum Axial Load	[N]	*10	8200							
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	1.300	1.500	1.200	1.100	1.400	0.850	1.100	0.830
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	3.200	3.500	3.100	3.100	3.300	2.800	3.100	2.800
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	11.000	11.000	11.000	11.000	11.000	10.000	11.000	10.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	60							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	17							

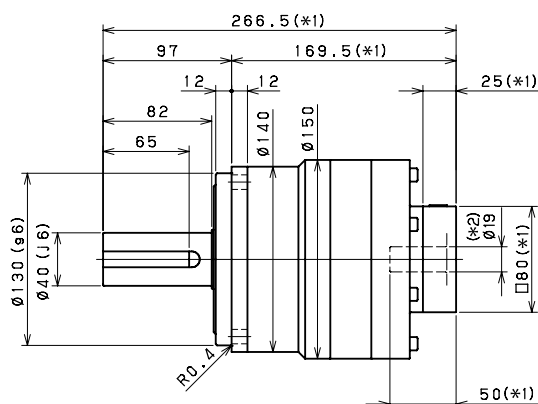
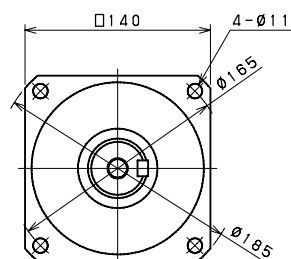
VRB-140 – 2-Stage Specifications

Frame Size	140								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000						
Maximum Input Speed	[rpm]	*5	4000						
No Load Running Torque	[Nm]	*6	0.56						
Permitted Radial Load	[N]	*7	7800	8100	8600	9100	9100	9100	9100
Permitted Axial Load	[N]	*8	7900	8200	8200	8200	8200	8200	8200
Maximum Radial Load	[N]	*9	9100						
Maximum Axial Load	[N]	*10	8200						
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.100	0.810	0.810	0.800	0.800	0.800	0.800
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.000	2.800	2.800	2.800	2.800	2.800	2.800
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	11.000	10.000	10.000	10.000	10.000	10.000	10.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	60						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	17						

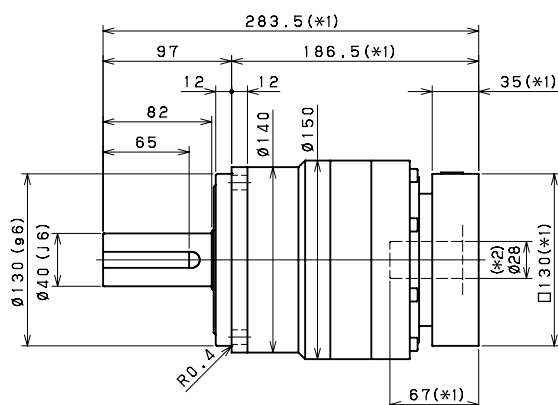
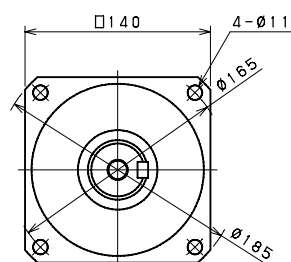
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRB140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-140 – 2-Stage Dimensions

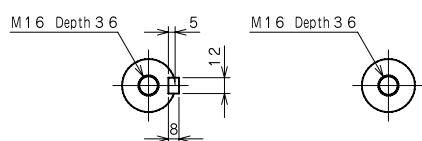
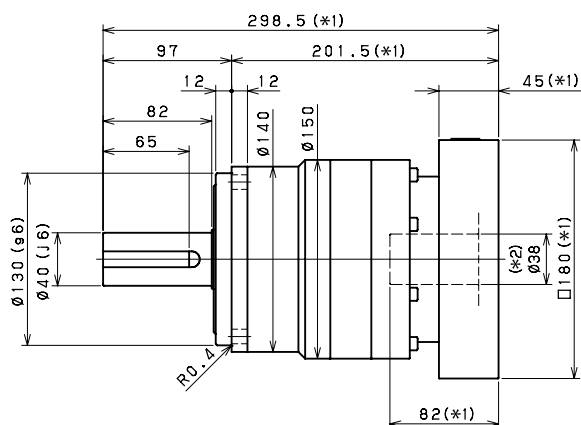
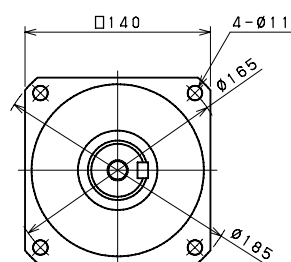
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



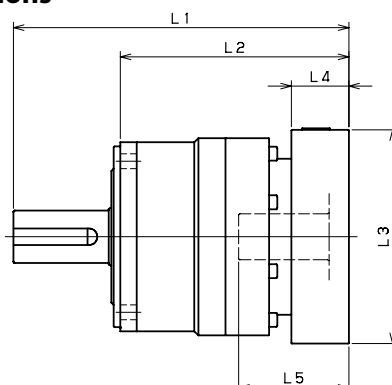
Shaft with key

Smooth shaft

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRB-140 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-140-□-□-19** (Input shaft bore ≤ φ19)	DA-DB-DC	--	--	--	--	--	--
	EB-ED	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	GB-GD-GJ	--	--	--	--	--	--
	HA	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	JA	--	--	--	--	--	--
VRB-140-□-□-28** (Input shaft bore ≤ φ28)	FA-FB-FC	249	214	152	□100	35	67
	GA-GB-GC-GD-GE-GF-GG-GH	249	214	152	□115	35	67
	HA-HC-HD	249	214	152	□130	35	67
	HB	259	214	162	□130	45	77
	HF	244	214	147	□130	30	62
	JA-JB-JC-JF	249	214	152	□150	35	67
	KA-KB-KE	249	214	152	□180	35	67
	LA	249	214	152	□200	35	67
	LB	259	214	162	□200	45	77
	MA	249	214	152	□220	35	67
	MB	259	214	162	□220	45	77
VRB-140-□-□-38** (Input shaft bore ≤ φ38)	HA	264	219	167	□130	45	82
	HB-HE	259	219	162	□130	40	77
	JA	264	219	167	□150	45	82
	KA-KB-KC	264	219	167	□180	45	82
	KD	299	219	202	□180	80	117
	KE	279	219	182	□180	60	97
	LB	274	219	177	□200	55	92
	MA-MB	264	219	167	□220	45	82
	MC	279	219	182	□220	60	97
VRB-140-□-□-48** (Input shaft bore ≤ φ48)	MD	274	219	177	□220	55	92
	KA	305	230	208	□180	75	118
	KB-KC	285	230	188	□180	55	98
	LA	285	230	188	□200	55	98
	MA	285	230	188	□220	55	98
	MB	305	230	208	□220	75	118

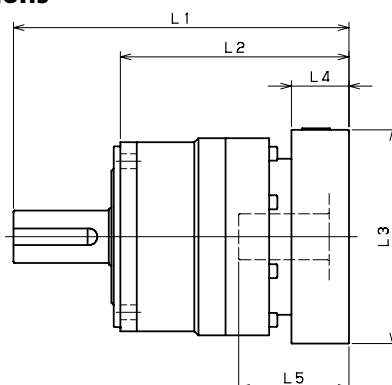
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRB-140 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-140-□-□-19** (Input shaft bore ≤ φ19)	DA-DB-DC	266.5	241.5	169.5	□80	25	50
	EB-ED	266.5	241.5	169.5	□90	25	50
	FA	266.5	241.5	169.5	□100	25	50
	FB	276.5	241.5	179.5	□100	35	60
	GB-GD-GJ	266.5	241.5	169.5	□115	25	50
	HA	266.5	241.5	169.5	□130	25	50
	HB	281.5	241.5	184.5	□130	40	65
	JA	276.5	241.5	179.5	□150	35	60
VRB-140-□-□-28** (Input shaft bore ≤ φ28)	FA-FB-FC	283.5	248.5	186.5	□100	35	67
	GA-GB-GC-GD-GE-GF-GG-GH	283.5	248.5	186.5	□115	35	67
	HA-HC-HD	283.5	248.5	186.5	□130	35	67
	HB	293.5	248.5	196.5	□130	45	77
	HF	278.5	248.5	181.5	□130	30	62
	JA-JB-JC-JF	283.5	248.5	186.5	□150	35	67
	KA-KB-KE	283.5	248.5	186.5	□180	35	67
	LA	283.5	248.5	186.5	□200	35	67
	LB	293.5	248.5	196.5	□200	45	77
	MA	283.5	248.5	186.5	□220	35	67
	MB	293.5	248.5	196.5	□220	45	77
VRB-140-□-□-38** (Input shaft bore ≤ φ38)	HA	298.5	253.5	201.5	□130	45	82
	HB-HE	293.5	253.5	196.5	□130	40	77
	JA	298.5	253.5	201.5	□150	45	82
	KA-KB-KC	298.5	253.5	201.5	□180	45	82
	KD	333.5	253.5	236.5	□180	80	117
	KE	313.5	253.5	216.5	□180	60	97
	LB	308.5	253.5	211.5	□200	55	92
	MA-MB	298.5	253.5	201.5	□220	45	82
	MC	313.5	253.5	216.5	□220	60	97
	MD	308.5	253.5	211.5	□220	55	92
VRB-140-□-□-48** (Input shaft bore ≤ φ48)	KA	339.5	264.5	242.5	□180	75	118
	KB-KC	319.5	264.5	222.5	□180	55	98
	LA	319.5	264.5	222.5	□200	55	98
	MA	319.5	264.5	222.5	□220	55	98
	MB	339.5	264.5	242.5	□220	75	118

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRB-180 – 1-Stage Specifications

Frame Size	180									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	750	500	500
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	1400	970	970
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2750	2200	2200
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	2.68							
Permitted Radial Load	[N]	*7	5600	6200	6700	7100	7400	7800	8100	8400
Permitted Axial Load	[N]	*8	4300	4900	5400	5800	6300	6600	7000	7300
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	44.000	28.000	22.000	18.000	16.000	15.000	14.000	14.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	66.000	50.000	44.000	41.000	38.000	37.000	36.000	36.000
Moment of Inertia ($\leq \emptyset 65$)	[kgcm ²]	--	130.000	110.000	100.000	100.000	99.000	97.000	97.000	96.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	175							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	36							

VRB-180 – 2-Stage Specifications

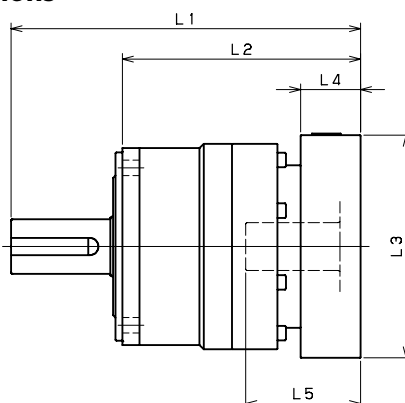
Frame Size	180									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	750	750
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	1400	1400
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2750	2750
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	1.39							
Permitted Radial Load	[N]	*7	9600	9800	11000	11000	12000	12000	13000	13000
Permitted Axial Load	[N]	*8	8700	8900	9900	11000	11000	12000	13000	13000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	4.700	5.400	4.400	4.200	4.900	3.200	4.100	3.200
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	12.000	13.000	12.000	12.000	13.000	11.000	12.000	11.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	34.000	35.000	34.000	34.000	35.000	33.000	34.000	33.000
Moment of Inertia ($\leq \emptyset 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	175							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	37							

VRB-180 – 2-Stage Specifications

Frame Size	180								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	500
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	970
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2200
Nominal Input Speed	[rpm]	*4	1500						
Maximum Input Speed	[rpm]	*5	3000						
No Load Running Torque	[Nm]	*6	1.39						
Permitted Radial Load	[N]	*7	14000	14000	15000	15000	15000	15000	15000
Permitted Axial Load	[N]	*8	14000	14000	14000	14000	14000	14000	14000
Maximum Radial Load	[N]	*9	15000						
Maximum Axial Load	[N]	*10	14000						
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.000	3.100	3.100	3.100	3.100	3.100	3.100
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12.000	11.000	11.000	11.000	11.000	11.000	11.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	34.000	33.000	33.000	33.000	33.000	33.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	175						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	37						

- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRB180
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-180 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-180-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	--	--	--	--	--	--
	GA•GB•GC•GD•GE•GF•GG•GH	--	--	--	--	--	--
	HA•HC•HD	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	HF	--	--	--	--	--	--
	JA•JB•JC•JF	--	--	--	--	--	--
	KA•KB•KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA	--	--	--	--	--	--
	MB	--	--	--	--	--	--
VRB-180-□-□-38** (Input shaft bore ≤ φ38)	HA	286.5	241.5	181.5	□130	45	82
	HB•HE	281.5	241.5	176.5	□130	40	77
	JA	286.5	241.5	181.5	□150	45	82
	KA•KB•KC	286.5	241.5	181.5	□180	45	82
	KD	321.5	241.5	216.5	□180	80	117
	KE	301.5	241.5	196.5	□180	60	97
	MA•MB	286.5	241.5	181.5	□220	45	82
	MC	301.5	241.5	196.5	□220	60	97
	MD	296.5	241.5	191.5	□220	55	92
	NA	286.5	241.5	181.5	□250	45	82
VRB-180-□-□-48** (Input shaft bore ≤ φ48)	KA	322.5	247.5	217.5	□180	75	118
	KB•KC	302.5	247.5	197.5	□180	55	98
	LA	302.5	247.5	197.5	□200	55	98
	MA	302.5	247.5	197.5	□220	55	98
	MB	322.5	247.5	217.5	□220	75	118
	NA	322.5	247.5	217.5	□250	75	118
	PA	322.5	247.5	217.5	□280	75	118
VRB-180-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	334	254	229	□220	80	122
	NA•NC	334	254	229	□250	80	122
	NB•ND	364	254	259	□250	110	152
	PA	354	254	249	□280	100	142
	PB	364	254	259	□280	110	152

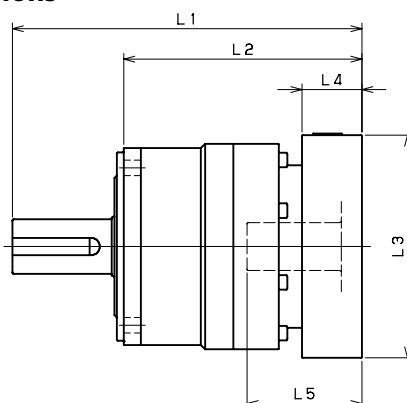
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-180 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-180-□-□-28** (Input shaft bore ≤ φ28)	FA-FB-FC	316	281	211	□100	35	67
	GA-GB-GC-GD-GE-GF-GG-GH	316	281	211	□115	35	67
	HA-HC-HD	316	281	211	□130	35	67
	HB	326	281	221	□130	45	77
	HF	311	281	206	□130	30	62
	JA-JB-JC-JF	316	281	211	□150	35	67
	KA-KB-KE	316	281	211	□180	35	67
	LA	316	281	211	□200	35	67
	LB	326	281	221	□200	45	77
	MA	316	281	211	□220	35	67
	MB	326	281	221	□220	45	77
VRB-180-□-□-38** (Input shaft bore ≤ φ38)	HA	331	286	226	□130	45	82
	HB-HE	326	286	221	□130	40	77
	JA	331	286	226	□150	45	82
	KA-KB-KC	331	286	226	□180	45	82
	KD	366	286	261	□180	80	117
	KE	346	286	241	□180	60	97
	MA-MB	331	286	226	□220	45	82
	MC	346	286	241	□220	60	97
	MD	341	286	236	□220	55	92
VRB-180-□-□-48** (Input shaft bore ≤ φ48)	NA	331	286	226	□250	45	82
	KA	367	292	262	□180	75	118
	KB-KC	347	292	242	□180	55	98
	LA	347	292	242	□200	55	98
	MA	347	292	242	□220	55	98
	MB	367	292	262	□220	75	118
	NA	367	292	262	□250	75	118
VRB-180-□-□-65** (Input shaft bore ≤ φ65)	PA	367	292	262	□280	75	118
	MA-MB-MC-MD	--	--	--	--	--	--
	NA-NC	--	--	--	--	--	--
	NB-ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-220 – 1-Stage Specifications

Frame Size	220									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1500	1000	1000
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	2200	1900	1600
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	5000	4000	4000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	2.92							
Permitted Radial Load	[N]	*7	5800	6400	6900	7300	7700	8000	8400	8700
Permitted Axial Load	[N]	*8	6400	7200	7900	8600	9200	9700	10000	11000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	90.000	62.000	52.000	47.000	42.000	40.000	39.000	38.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	150.000	120.000	110.000	110.000	100.000	100.000	99.000	98.000
Efficiency	[%]	*11	97							
Torsional Rigidity	[Nm/arc/min]	*12	400							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	53							

VRB-220 – 2-Stage Specifications

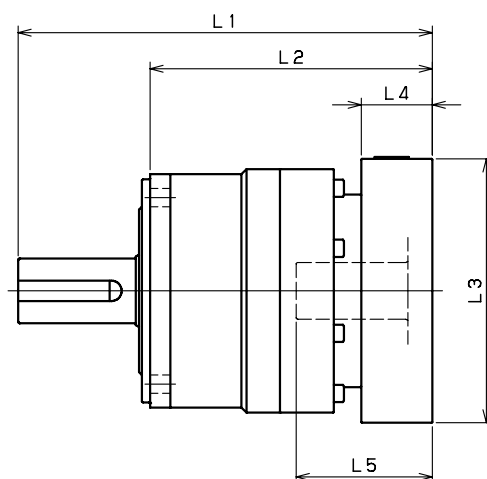
Frame Size	220									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1500	1500
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	1600	2300	2300
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	5000	5000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	1.14							
Permitted Radial Load	[N]	*7	9900	10000	11000	12000	12000	13000	13000	14000
Permitted Axial Load	[N]	*8	13000	13000	14000	14000	14000	14000	14000	14000
Maximum Radial Load	[N]	*9	15000							
Maximum Axial Load	[N]	*10	14000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	14.000	16.000	14.000	14.000	15.000	12.000	13.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	36.000	37.000	35.000	35.000	36.000	34.000	35.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92							
Torsional Rigidity	[Nm/arc/min]	*12	400							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	54							

VRB-220 – 2-Stage Specifications

Frame Size	220								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1000
Maximum Acceleration Torque	[Nm]	*2	1300	2300	2300	2300	1800	1300	1200
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	4000
Nominal Input Speed	[rpm]	*4	1000						
Maximum Input Speed	[rpm]	*5	2000						
No Load Running Torque	[Nm]	*6	1.14						
Permitted Radial Load	[N]	*7	14000	15000	15000	15000	15000	15000	15000
Permitted Axial Load	[N]	*8	14000	14000	14000	14000	14000	14000	14000
Maximum Radial Load	[N]	*9	15000						
Maximum Axial Load	[N]	*10	14000						
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	13.000	12.000	12.000	12.000	12.000	12.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	35.000	33.000	33.000	33.000	33.000	33.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92						
Torsional Rigidity	[Nm/arc/min]	*12	400						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	61						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	54						

- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRB220
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRB-220 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRB-220-□-□-38** (Input shaft bore ≤ φ38)	HA	--	--	--	--	--	--
	HB-HE	--	--	--	--	--	--
	JA	--	--	--	--	--	--
	KA-KB-KC	--	--	--	--	--	--
	KD	--	--	--	--	--	--
	KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA-MB	--	--	--	--	--	--
	MC	--	--	--	--	--	--
	MD	--	--	--	--	--	--
	NA	--	--	--	--	--	--
VRB-220-□-□-48** (Input shaft bore ≤ φ48)	KA	367.5	292.5	229.5	□180	75	118
	KB-KC	347.5	292.5	209.5	□180	55	98
	LA	347.5	292.5	209.5	□200	55	98
	MA	347.5	292.5	209.5	□220	55	98
	MB	367.5	292.5	229.5	□220	75	118
	NA	367.5	292.5	229.5	□250	75	118
	PA	367.5	292.5	229.5	□280	75	118
VRB-220-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	371.5	291.5	233.5	□220	80	122
	NA-NC	371.5	291.5	233.5	□250	80	122
	NB-ND	401.5	291.5	263.5	□250	110	152
	PA	391.5	291.5	253.5	□280	100	142
	PB	401.5	291.5	263.5	□280	110	152
	QA-QB	391.5	291.5	253.5	□320	100	142

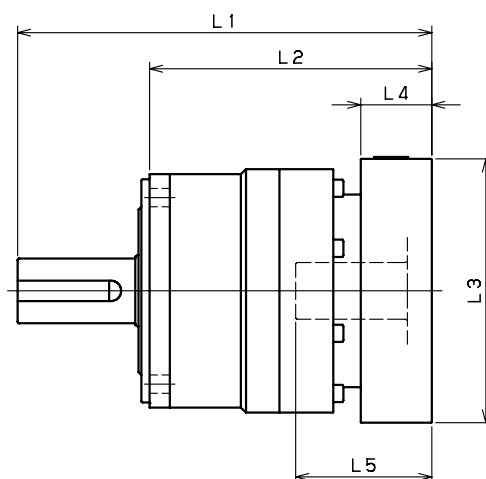
*1) Single reduction : 1/3 ~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRB-220 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRB-220-□-□-38** (Input shaft bore ≤ φ38)	HA	366.5	321.5	228.5	□130	45	82
	HB-HE	361.5	321.5	223.5	□130	40	77
	JA	366.5	321.5	228.5	□150	45	82
	KA-KB-KC	366.5	321.5	228.5	□180	45	82
	KD	401.5	321.5	263.5	□180	80	117
	KE	381.5	321.5	243.5	□180	60	97
	LA	366.5	321.5	228.5	□200	45	82
	LB	376.5	321.5	238.5	□200	55	92
	MA-MB	366.5	321.5	228.5	□220	45	82
	MC	381.5	321.5	243.5	□220	60	97
	MD	376.5	321.5	238.5	□220	55	92
	NA	366.5	321.5	228.5	□250	45	82
VRB-220-□-□-48** (Input shaft bore ≤ φ48)	KA	402.5	327.5	264.5	□180	75	118
	KB-KC	382.5	327.5	244.5	□180	55	98
	LA	382.5	327.5	244.5	□200	55	98
	MA	382.5	327.5	244.5	□220	55	98
	MB	402.5	327.5	264.5	□220	75	118
	NA	402.5	327.5	264.5	□250	75	118
	PA	402.5	327.5	264.5	□280	75	118
VRB-220-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	--	--	--	--	--	--
	NA-NC	--	--	--	--	--	--
	NB-ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--
	QA-QB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

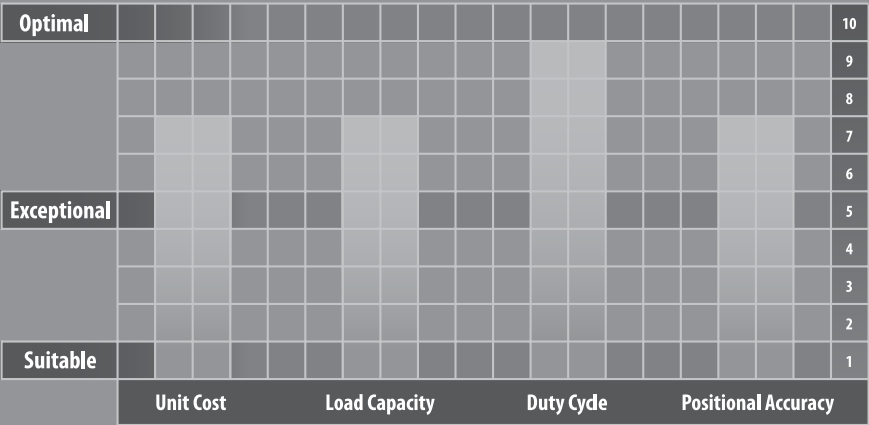
For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-SERIES

This planetary series has exceptional load handling capabilities, and it is an ideal selection for higher speed and continuous duty applications. The tapered roller bearings at the output of the reducer allow the VRS gearbox to handle larger radial and thrust loads. This internal design provides an extremely smooth running and quiet reducer even with challenging static forces.

The VRS series is the premier inline series with a maximum 3 arc/min backlash rating and an output torque peaking at 3,700 Nm. The VRS series is commonly utilized in applications such as higher speed packaging and converting equipment, printing machinery and any servo application requiring very low backlash in a more demanding environment.

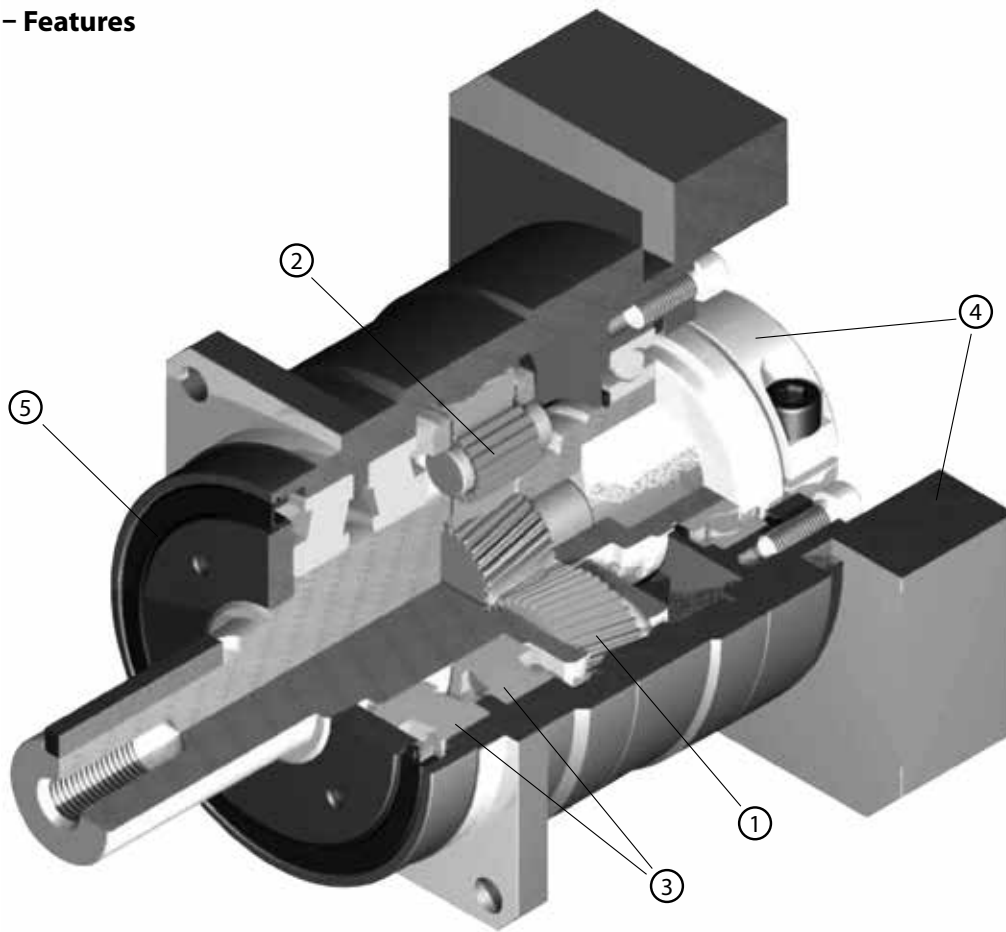




VRS-SERIES

- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thru-bolt mounting style
- Best-in-class backlash (≤ 3 arc/min)
- Impressive radial and axial load ratings

VRS-Series – Features



- ① High precision: Standard backlash is 3 arc/min, ideal for higher levels of positional accuracy
- ② High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ③ High load capacity: Taper roller bearings were added to the output section to increase radial and axial load ratings
- ④ Adapter-bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

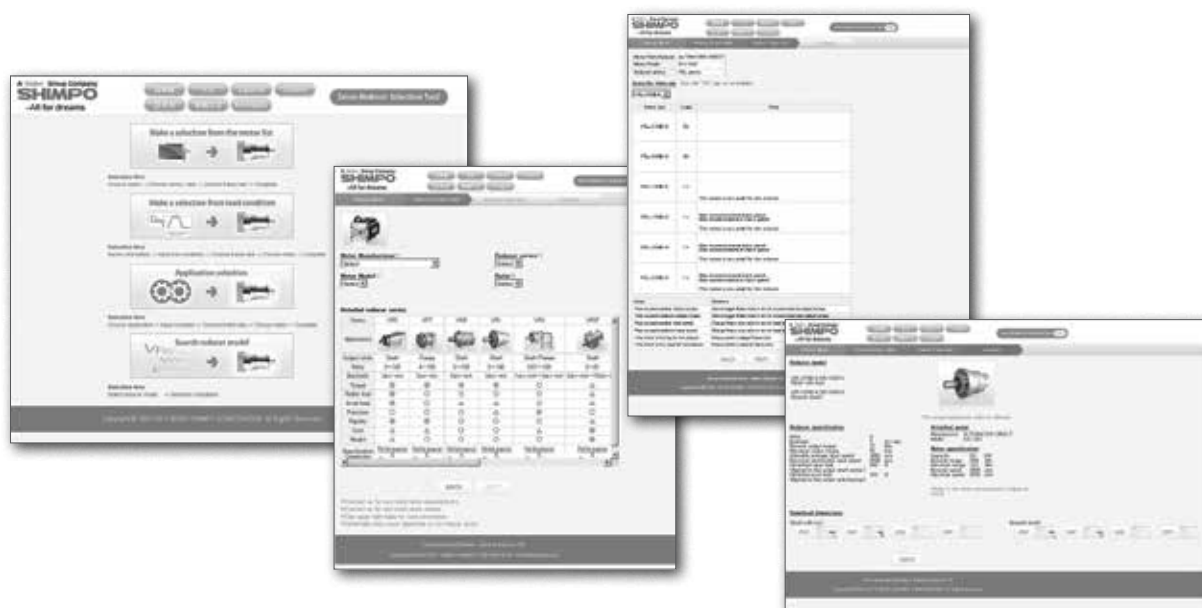
VRS-Series – Model Code

VR	S	—	100	B	—	7	—	K	3	—	19HB16
Model name for ABLE reducer											
Series name VRS Series											
Frame size: 060, 075, 100, 140, 180, 210, 240											
Generation of design											
Ratio Single: 3, 4, 5, 6, 7, 8, 9, 10 Double: 15, 16, 20, 25, 28, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100											
Output style K... Shaft with key S... Smooth shaft											
Backlash 3... 3arc-min											
* Adapter flange code											

*1) Adapter flange code
Adapter flange code varies depending on the motor

Contact us for additional information or refer to our online reducer selection tool.

Selection tool www.nidec-shimpo.co.jp/selection/eng



VRS-o60 – 1-Stage Specifications

Frame Size	060									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.15							
Permitted Radial Load	[N]	*7	1700	1900	2000	2100	2200	2300	2400	2400
Permitted Axial Load	[N]	*8	2300	2500	2700	2700	2700	2700	2700	2700
Maximum Radial Load	[N]	*9	3000							
Maximum Axial Load	[N]	*10	2700							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.150	0.100	0.080	0.070	0.064	0.060	0.058	0.056
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.230	0.180	0.160	0.150	0.140	0.140	0.140	0.140
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.440	0.390	0.370	0.360	0.350	0.350	0.350	0.340
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	3							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	66							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.6							

VRS-o60 – 2-Stage Specifications

Frame Size	060									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	27	27
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	50	50
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	100	100
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.04							
Permitted Radial Load	[N]	*7	2800	2800	3000	3000	3000	3000	3000	3000
Permitted Axial Load	[N]	*8	2700	2700	2700	2700	2700	2700	2700	2700
Maximum Radial Load	[N]	*9	3000							
Maximum Axial Load	[N]	*10	2700							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.055	0.057	0.054	0.053	0.055	0.049	0.053	0.049
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.140	0.140	0.130	0.130	0.140	0.130	0.130	0.130
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	3							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	66							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.8							

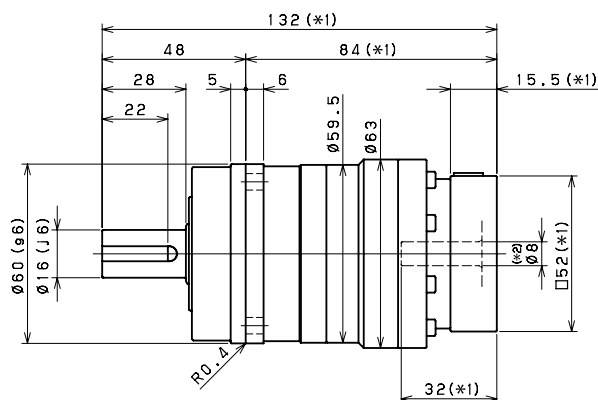
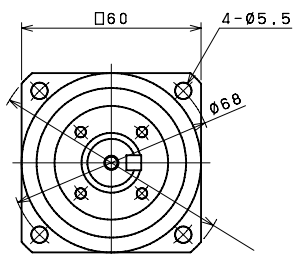
VRS-o6o – 2-Stage Specifications

Frame Size	060								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.04						
Permitted Radial Load	[N]	*7	3000	3000	3000	3000	3000	3000	3000
Permitted Axial Load	[N]	*8	2700	2700	2700	2700	2700	2700	2700
Maximum Radial Load	[N]	*9	3000						
Maximum Axial Load	[N]	*10	2700						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.053	0.049	0.049	0.049	0.049	0.049	0.049
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.130	0.130	0.130	0.130	0.130	0.130	0.130
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	3						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	66						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	1.8						

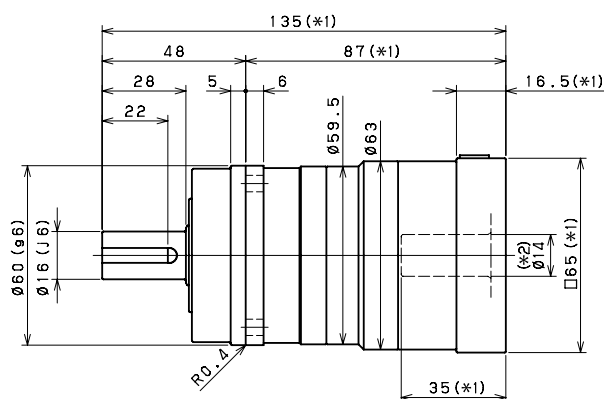
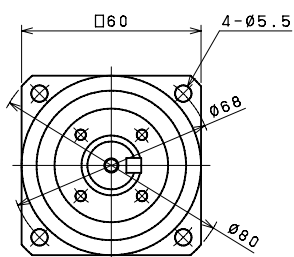
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRS060
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-o60 – 1-Stage Dimensions

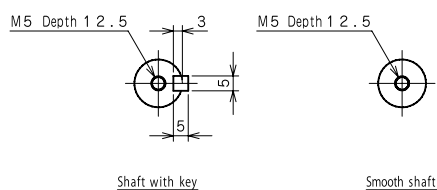
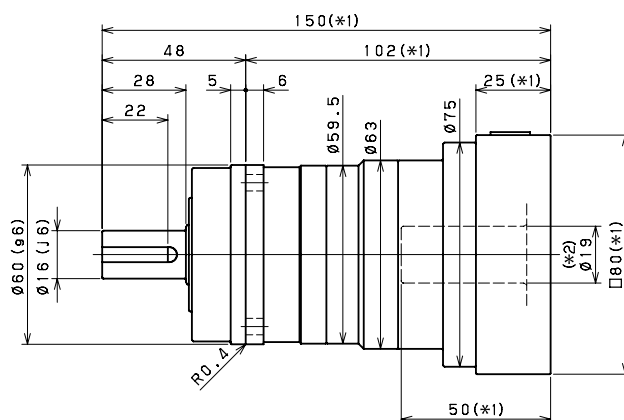
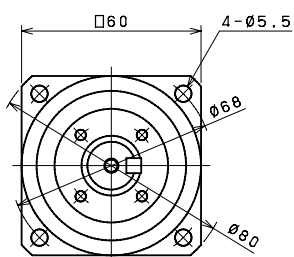
Input shaft bore $\leq \varnothing 8$



Input shaft bore $\leq \varnothing 14$



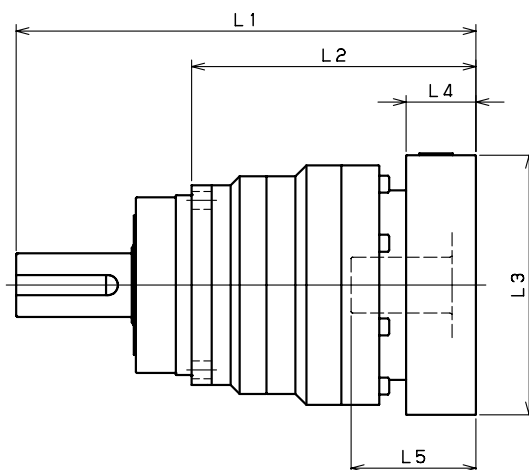
Input shaft bore $\leq \varnothing 19$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRS-o60 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRS-060-□-□-8** (Input shaft bore ≤ φ8)	AA·AC·AD·AF·AG·AL·AM·AN·AQ	132	116.5	84	□52	15.5	32
	AB·AE·AH·AJ·AK	137	116.5	89	□52	20.5	37
	BA·BB·BD·BE·BG·BH·BJ	132	116.5	84	□60	15.5	32
	BC·BF	137	116.5	89	□60	20.5	37
	CA	137	116.5	89	□70	20.5	37
VRS-060-□-□-14** (Input shaft bore ≤ φ14)	BA·BB·BD·BE·BF·BG·BH·BJ·BK·BP	135	118.5	87	□65	16.5	35
	BC·BH·BM·BN	140	118.5	92	□65	21.5	40
	BL	145	118.5	97	□65	26.5	45
	CA·CC	135	118.5	87	□70	16.5	35
	CB	140	118.5	92	□70	21.5	40
	DA·DB·DC·DD·DF·DH·DJ	135	118.5	87	□80	16.5	35
	DE·DL	140	118.5	92	□80	21.5	40
	DG·DK	145	118.5	97	□80	26.5	45
	EA·EB·EC·EF·EG·EK·EL	135	118.5	87	□90	16.5	35
	EJ·EM	140	118.5	92	□90	21.5	40
	ED·EE·EH	145	118.5	97	□90	26.5	45
	FA	135	118.5	87	□100	16.5	35
	FB	135	118.5	87	□115	16.5	35
VRS-060-□-□-19** (Input shaft bore ≤ φ19)	DA·DB·DC	150	125	102	□80	25	50
	DD	160	125	112	□80	35	60
	DE	155	125	107	□80	30	55
	EA	155	125	107	□90	30	55
	EB·ED	150	125	102	□90	25	50
	EC	160	125	112	□90	35	60
	FA	150	125	102	□100	25	50
	FB	160	125	112	□100	35	60

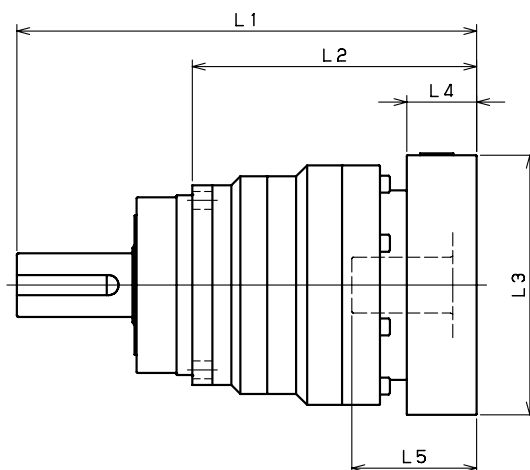
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-o6o – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRS-060-□-□-8** (Input shaft bore ≤ φ8)	AA•AC•AD•AF•AG•AL•AM•AN•AQ	151	135.5	103	□52	15.5	32
	AB•AE•AH•AJ•AK	156	135.5	108	□52	20.5	37
	BA•BB•BD•BE•BG•BH•BJ	151	135.5	103	□60	15.5	32
	BC•BF	156	135.5	108	□60	20.5	37
	CA	156	135.5	108	□70	20.5	37
VRS-060-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	156	139.5	108	□65	16.5	35
	BC•BH•BM•BN	161	139.5	113	□65	21.5	40
	BL	166	139.5	118	□65	26.5	45
	CA•CC	156	139.5	108	□70	16.5	35
	CB	161	139.5	113	□70	21.5	40
	DA•DB•DC•DD•DF•DH•DJ	156	139.5	108	□80	16.5	35
	DE•DL	161	139.5	113	□80	21.5	40
	DG•DK	166	139.5	118	□80	26.5	45
	EA•EB•EC•EF•EG•EK•EL	156	139.5	108	□90	16.5	35
	EJ•EM	161	139.5	113	□90	21.5	40
	ED•EE•EH	166	139.5	118	□90	26.5	45
	FA	156	139.5	108	□100	16.5	35
	FB	156	139.5	108	□115	16.5	35
VRS-060-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	171	146	123	□80	25	50
	DD	181	146	133	□80	35	60
	DE	176	146	128	□80	30	55
	EA	176	146	128	□90	30	55
	EB•ED	171	146	123	□90	25	50
	EC	181	146	133	□90	35	60
	FA	171	146	123	□100	25	50
	FB	181	146	133	□100	35	60

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-075 – 1-Stage Specifications

Frame Size	075									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.35							
Permitted Radial Load	[N]	*7	2300	2500	2700	2800	3000	3100	3200	3300
Permitted Axial Load	[N]	*8	3400	3700	3900	3900	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.670	0.470	0.380	0.340	0.310	0.300	0.290	0.290
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	1.100	0.930	0.850	0.810	0.780	0.760	0.750	0.750
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	3.100	2.900	2.900	2.800	2.800	2.800	2.800	2.800
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	10							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	3.4							

VRS-075 – 2-Stage Specifications

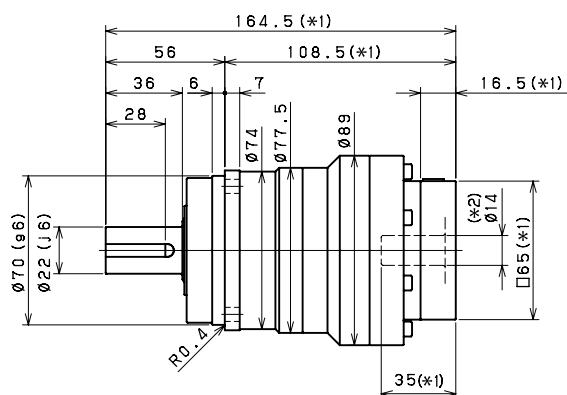
Frame Size	075									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	75	75
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	125	125
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	250	250
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.06							
Permitted Radial Load	[N]	*7	3700	3800	4000	4300	4300	4300	4300	4300
Permitted Axial Load	[N]	*8	3900	3900	3900	3900	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.130	0.140	0.130	0.120	0.140	0.099	0.120	0.098
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.280	0.300	0.280	0.280	0.290	0.250	0.270	0.250
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.720	0.730	0.720	0.710	0.730	0.700	0.710	0.690
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	10							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	3.8							

VRS-075 – 2-Stage Specifications

Frame Size	075								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.06						
Permitted Radial Load	[N]	*7	4300	4300	4300	4300	4300	4300	4300
Permitted Axial Load	[N]	*8	3900	3900	3900	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300						
Maximum Axial Load	[N]	*10	3900						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.120	0.098	0.098	0.097	0.097	0.097	0.097
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.270	0.250	0.250	0.250	0.250	0.250	0.250
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.710	0.690	0.690	0.690	0.690	0.690	0.690
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	10						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	3.8						

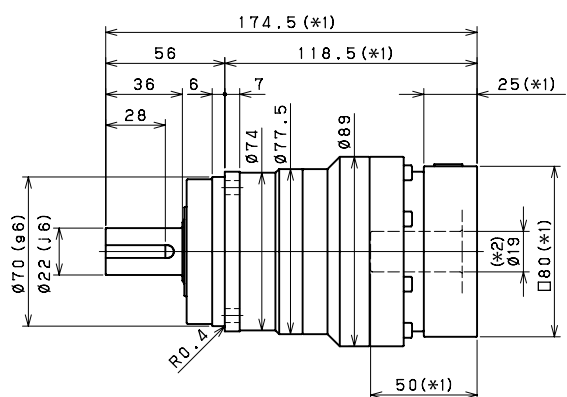
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRS075
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

Input shaft bore $\leq \phi 14$

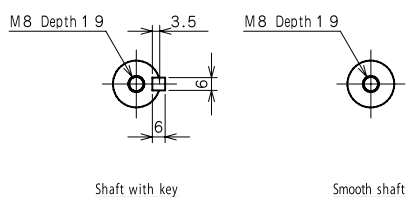
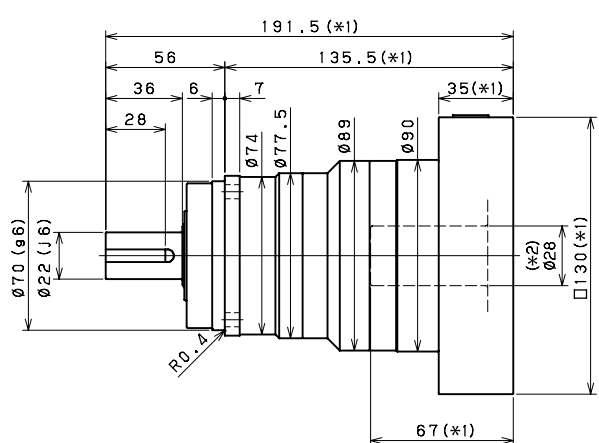


Technical drawing of a square flange with a central hole and concentric circles. The drawing includes the following dimensions and features:

- Overall square dimension: $\square 75$
- Central hole diameter: $\varnothing 8.5$
- Inner concentric circle diameter: $\varnothing 9.6$
- Outer concentric circle diameter: $\varnothing 85$
- Four small holes arranged in a square pattern, each with a diameter of $4 - \varnothing 6.6$

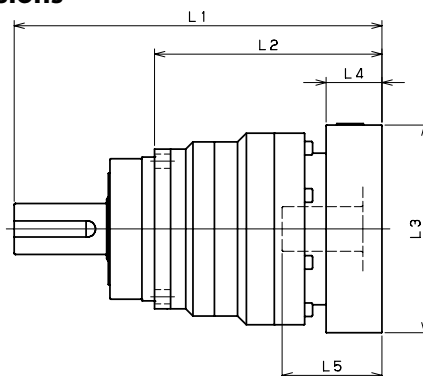


Technical drawing of a circular mechanical part. The drawing shows a top view of a circular component with a square outer flange. The outer flange has a square hole in the center. The outer diameter is labeled as $\square 75$. The inner circular part has a diameter of $\phi 85$. There are four holes, each with a diameter of $\phi 6.6$, arranged in a circle. The central square hole has a side length of $\phi 96$.



*2) Bushing will be inserted to adapt to motor shaft

VRS-075 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRS-075-□-□-8** (Input shaft bore ≤ φ8)	AA-AC-AD-AF-AG-AL-AM-AN-AQ	--	--	--	--	--	--
	AB-AE-AH-AJ-AK	--	--	--	--	--	--
	BA-BB-BD-BE-BG-BH-BJ	--	--	--	--	--	--
	CA	--	--	--	--	--	--
VRS-075-□-□-14** (Input shaft bore ≤ φ14)	BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP	164.5	148	108.5	□65	16.5	35
	BC-BH-BM-BN	169.5	148	113.5	□65	21.5	40
	CA-CC	164.5	148	108.5	□70	16.5	35
	DA-DB-DC-DD-DF-DH-DJ	164.5	148	108.5	□80	16.5	35
	EA-EB-EC-EF-EG-EK-EL	164.5	148	108.5	□90	16.5	35
	FA	164.5	148	108.5	□100	16.5	35
	FB	174.5	148	118.5	□100	26.5	45
	JA	179.5	148	123.5	□150	31.5	50
VRS-075-□-□-19** (Input shaft bore ≤ φ19)	DA-DB-DC	174.5	149.5	118.5	□80	25	50
	EB-ED	174.5	149.5	118.5	□90	25	50
	FA	174.5	149.5	118.5	□100	25	50
	FB	184.5	149.5	128.5	□100	35	60
	GA-GC-GH	179.5	149.5	123.5	□115	30	55
	GB-GD-GJ	174.5	149.5	118.5	□115	25	50
	GE-GF	184.5	149.5	128.5	□115	35	60
	HA	174.5	149.5	118.5	□130	25	50
	HB	189.5	149.5	133.5	□130	40	65
	HC-HD-HE	179.5	149.5	123.5	□130	30	55
	JA	184.5	149.5	128.5	□150	35	60
	JB	189.5	149.5	133.5	□150	40	65
VRS-075-□-□-28** (Input shaft bore ≤ φ28)	FA-FB-FC	191.5	156.5	135.5	□100	35	67
	FD-FE	186.5	156.5	130.5	□100	30	62
	GA-GB-GC-GD-GE-GF-GG-GH	191.5	156.5	135.5	□115	35	67
	HA-HC-HD	191.5	156.5	135.5	□130	35	67
	HB	201.5	156.5	145.5	□130	45	77
	HE	206.5	156.5	150.5	□130	50	82
	HF	186.5	156.5	130.5	□130	30	62
	JA-JB-JC-JF	191.5	156.5	135.5	□150	35	67
	JD	211.5	156.5	155.5	□150	55	87
	JE	201.5	156.5	145.5	□150	45	77

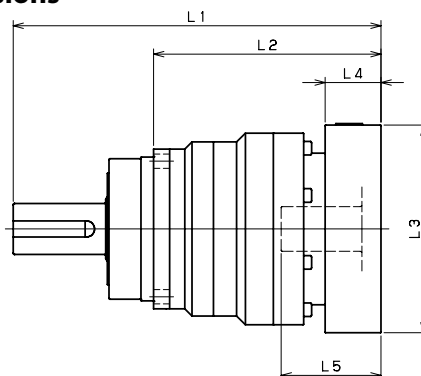
*1) Single reduction : 1/3~1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-075 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRS-075-□-□-8** (Input shaft bore ≤ φ8)	AA•AC•AD•AF•AG•AL•AM•AN•AQ	181.5	166	125.5	□52	15.5	32
	AB•AE•AH•AJ•AK	186.5	166	130.5	□52	20.5	37
	BA•BB•BD•BE•BG•BH•BJ	181.5	166	125.5	□60	15.5	32
	CA	186.5	166	130.5	□70	20.5	37
VRS-075-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	186.5	170	130.5	□65	16.5	35
	BC•BH•BM•BN	191.5	170	135.5	□65	21.5	40
	CA•CC	186.5	170	130.5	□70	16.5	35
	DA•DB•DC•DD•DF•DH•DJ	186.5	170	130.5	□80	16.5	35
	EA•EB•EC•EF•EG•EK•EL	186.5	170	130.5	□90	16.5	35
	FA	186.5	170	130.5	□100	16.5	35
	FB	196.5	170	140.5	□100	26.5	45
	JA	201.5	170	145.5	□150	31.5	50
VRS-075-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	196.5	171.5	140.5	□80	25	50
	EB•ED	196.5	171.5	140.5	□90	25	50
	FA	196.5	171.5	140.5	□100	25	50
	FB	206.5	171.5	150.5	□100	35	60
	GA•GC•GH	201.5	171.5	145.5	□115	30	55
	GB•GD•GJ	196.5	171.5	140.5	□115	25	50
	GE•GF	206.5	171.5	150.5	□115	35	60
	HA	196.5	171.5	140.5	□130	25	50
	HB	211.5	171.5	155.5	□130	40	65
	HC•HD•HE	201.5	171.5	145.5	□130	30	55
	JA	206.5	171.5	150.5	□150	35	60
	JB	211.5	171.5	155.5	□150	40	65
VRS-075-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	215.5	180.5	159.5	□100	35	67
	FD•FE	210.5	180.5	154.5	□100	30	62
	GA•GB•GC•GD•GE•GF•GG•GH	215.5	180.5	159.5	□115	35	67
	HA•HC•HD	215.5	180.5	159.5	□130	35	67
	HB	225.5	180.5	169.5	□130	45	77
	HE	230.5	180.5	174.5	□130	50	82
	HF	210.5	180.5	154.5	□130	30	62
	JA•JB•JC•JF	215.5	180.5	159.5	□150	35	67
	JD	235.5	180.5	179.5	□150	55	87
	JE	225.5	180.5	169.5	□150	45	77

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRS-100 – 1-Stage Specifications

Frame Size	100									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	120	120	180	180	180	180	120	120
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	330	225	225
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	625	500	500
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	1.30							
Permitted Radial Load	[N]	*7	3400	3700	4000	4200	4400	4600	4800	4900
Permitted Axial Load	[N]	*8	4800	5200	5600	5900	6100	6300	6300	6300
Maximum Radial Load	[N]	*9	7000							
Maximum Axial Load	[N]	*10	6300							
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	3.200	2.000	1.500	1.300	1.100	1.000	0.960	0.930
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	5.200	4.000	3.600	3.300	3.100	3.000	3.000	3.000
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	13.000	12.000	11.000	11.000	11.000	11.000	11.000	11.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	31							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	71							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	8.1							

VRS-100 – 2-Stage Specifications

Frame Size	100									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	180	180
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	330	330
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	625	625
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.42							
Permitted Radial Load	[N]	*7	5600	5700	6100	6500	6700	6900	7000	7000
Permitted Axial Load	[N]	*8	6300	6300	6300	6300	6300	6300	6300	6300
Maximum Radial Load	[N]	*9	7000							
Maximum Axial Load	[N]	*10	6300							
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.420	0.480	0.400	0.380	0.440	0.290	0.370	0.280
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.860	0.910	0.830	0.820	0.870	0.740	0.810	0.730
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.800	2.900	2.800	2.800	2.800	2.700	2.700	2.700
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	31							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	71							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	8.8							

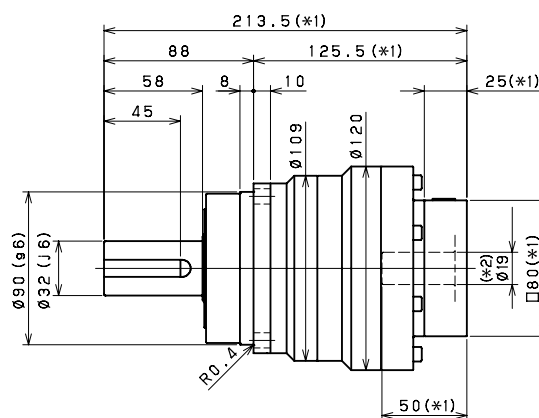
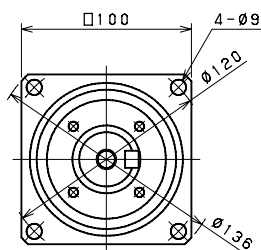
VRS-100 – 2-Stage Specifications

Frame Size	100								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	120
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	225
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	500
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.42						
Permitted Radial Load	[N]	*7	7000	7000	7000	7000	7000	7000	7000
Permitted Axial Load	[N]	*8	6300	6300	6300	6300	6300	6300	6300
Maximum Radial Load	[N]	*9	7000						
Maximum Axial Load	[N]	*10	6300						
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.370	0.280	0.280	0.280	0.280	0.270	0.270
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.800	0.730	0.730	0.730	0.730	0.730	0.730
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	31						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	71						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	8.8						

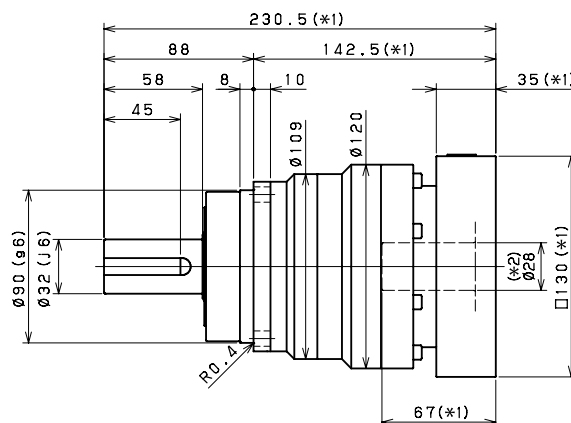
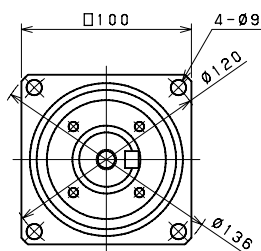
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRS100
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-100 – 1-Stage Dimensions

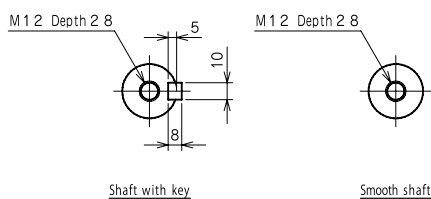
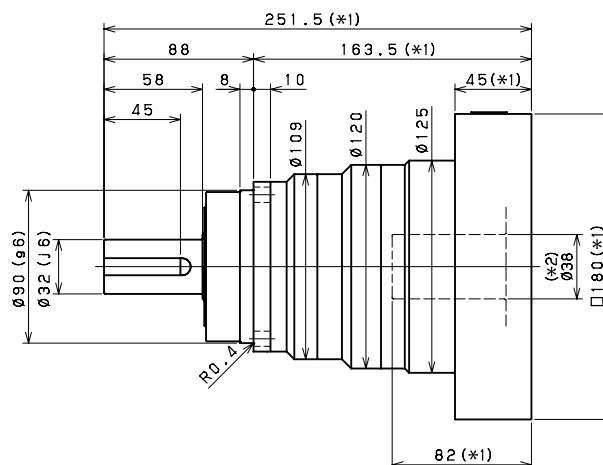
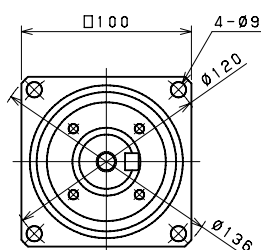
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$

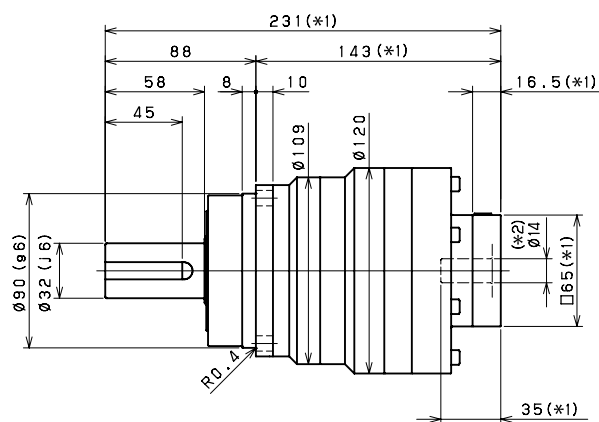
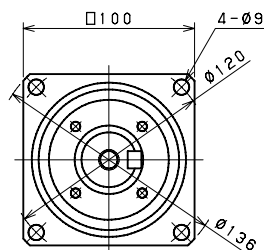


*1) Length will vary depending on motor

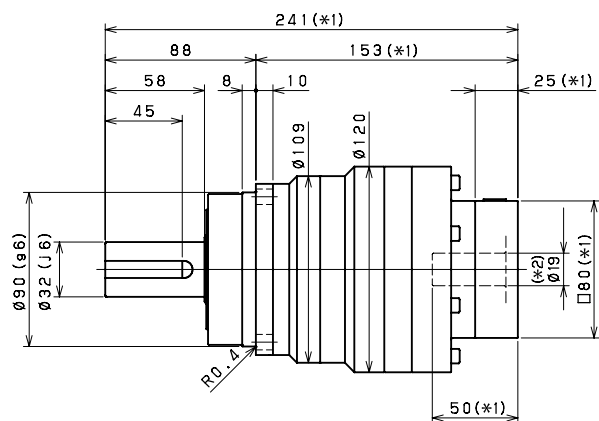
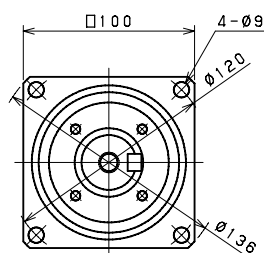
*2) Bushing will be inserted to adapt to motor shaft

VRS-100 – 2-Stage Dimensions

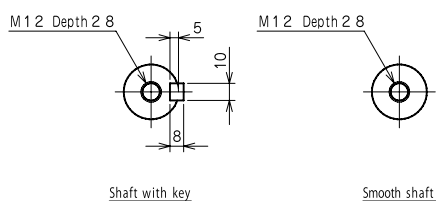
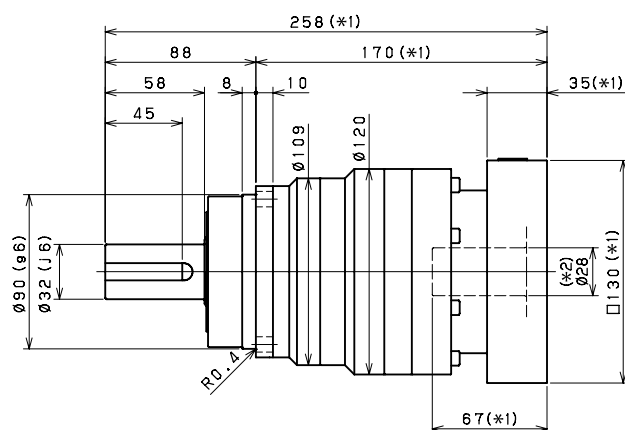
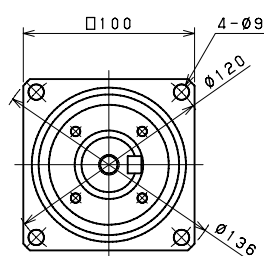
Input shaft bore $\leq \varnothing 14$



Input shaft bore $\leq \varnothing 19$

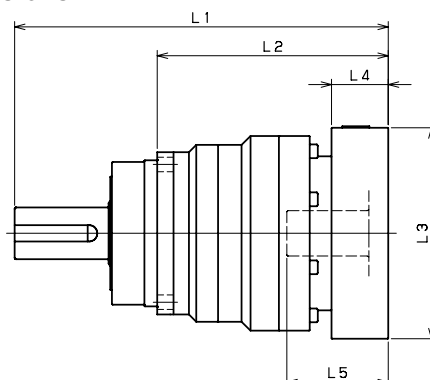


Input shaft bore $\leq \varnothing 28$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRS-100 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRS-100-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	--	--	--	--	--	--
	BC•BH•BM•BN	--	--	--	--	--	--
	CA•CC	--	--	--	--	--	--
	DA•DB•DC•DD•DF•DH•DJ	--	--	--	--	--	--
	EA•EB•EC•EF•EG•EK•EL	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	JA	--	--	--	--	--	--
VRS-100-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	213.5	188.5	125.5	□80	25	50
	EB	213.5	188.5	125.5	□90	25	50
	FA	213.5	188.5	125.5	□100	25	50
	FB	223.5	188.5	135.5	□100	35	60
	GB•GD	213.5	188.5	125.5	□115	25	50
	HA	223.5	188.5	135.5	□115	35	60
	--	213.5	188.5	125.5	□130	25	50
	--	228.5	188.5	140.5	□130	40	65
	--	218.5	188.5	130.5	□130	30	55
	HB	223.5	188.5	135.5	□150	35	60
VRS-100-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	230.5	195.5	142.5	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	230.5	195.5	142.5	□115	35	67
	HA•HC•HD	230.5	195.5	142.5	□130	35	67
	HB	240.5	195.5	152.5	□130	45	77
	HF	225.5	195.5	137.5	□130	30	62
	JA•JB•JC•JF	230.5	195.5	142.5	□150	35	67
	JD	250.5	195.5	162.5	□150	55	87
	JE	240.5	195.5	152.5	□150	45	77
	KA•KB•KE	230.5	195.5	142.5	□180	35	67
	KD	240.5	195.5	152.5	□180	45	77
VRS-100-□-□-38** (Input shaft bore ≤ φ38)	HA	251.5	206.5	163.5	□130	45	82
	HB•HE	246.5	206.5	158.5	□130	40	77
	JA	251.5	206.5	163.5	□150	45	82
	KA•KB•KC	251.5	206.5	163.5	□180	45	82
	KD	286.5	206.5	198.5	□180	80	117
	KE	266.5	206.5	178.5	□180	60	97

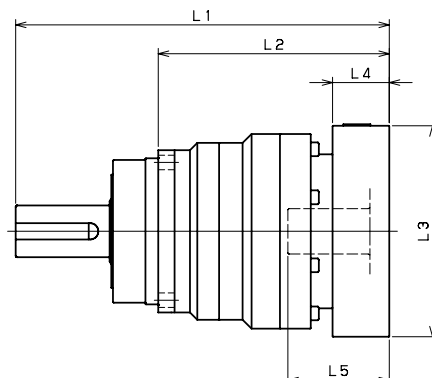
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRS-100 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRS-100-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	231	214.5	143	□65	16.5	35
	BC•BH•BM•BN	236	214.5	148	□65	21.5	40
	CA•CC	231	214.5	143	□70	16.5	35
	DA•DB•DC•DD•DF•DH•DJ	231	214.5	143	□80	16.5	35
	EA•EB•EC•EF•EG•EK•EL	231	214.5	143	□90	16.5	35
	FA	231	214.5	143	□100	16.5	35
	FB	241	214.5	153	□100	26.5	45
	JA	246	214.5	158	□150	31.5	50
VRS-100-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	241	216	153	□80	25	50
	EB	241	216	153	□90	25	50
	FA	241	216	153	□100	25	50
	FB	251	216	163	□100	35	60
	GB•GD	241	216	153	□115	25	50
	HA	251	216	163	□115	35	60
	--	241	216	153	□130	25	50
	--	256	216	168	□130	40	65
	--	246	216	158	□130	30	55
VRS-100-□-□-28** (Input shaft bore ≤ φ28)	HB	251	216	163	□150	35	60
	FA•FB•FC	258	223	170	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	258	223	170	□115	35	67
	HA•HC•HD	258	223	170	□130	35	67
	HB	268	223	180	□130	45	77
	HF	253	223	165	□130	30	62
	JA•JB•JC•JF	258	223	170	□150	35	67
	JD	278	223	190	□150	55	87
	JE	268	223	180	□150	45	77
VRS-100-□-□-38** (Input shaft bore ≤ φ38)	KA•KB•KE	258	223	170	□180	35	67
	KD	268	223	180	□180	45	77
	HA	275.5	230.5	187.5	□130	45	82
	HB•HE	270.5	230.5	182.5	□130	40	77
	JA	275.5	230.5	187.5	□150	45	82
	KA•KB•KC	275.5	230.5	187.5	□180	45	82
	KD	310.5	230.5	222.5	□180	80	117
	KE	290.5	230.5	202.5	□180	60	97

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRS-140 – 1-Stage Specifications

Frame Size	140									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	240	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	1.63							
Permitted Radial Load	[N]	*7	6700	7400	7900	8300	8700	9100	9400	9700
Permitted Axial Load	[N]	*8	9000	9000	9000	9000	9000	9000	9000	9000
Maximum Radial Load	[N]	*9	10000							
Maximum Axial Load	[N]	*10	9000							
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	12.000	7.400	5.800	4.900	4.100	3.800	3.600	3.400
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	20.000	15.000	13.000	13.000	12.000	12.000	11.000	11.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	42.000	37.000	36.000	35.000	34.000	34.000	34.000	33.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	60							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	17							

VRS-140 – 2-Stage Specifications

Frame Size	140									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	360	360
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	700	700
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1250	1250
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	0.56							
Permitted Radial Load	[N]	*7	10000	10000	10000	10000	10000	10000	10000	10000
Permitted Axial Load	[N]	*8	9000	9000	9000	9000	9000	9000	9000	9000
Maximum Radial Load	[N]	*9	10000							
Maximum Axial Load	[N]	*10	9000							
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	1.300	1.500	1.200	1.100	1.400	0.850	1.100	0.830
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	3.200	3.500	3.100	3.100	3.300	2.800	3.100	2.800
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	11.000	11.000	11.000	11.000	11.000	10.000	11.000	10.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	60							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	19							

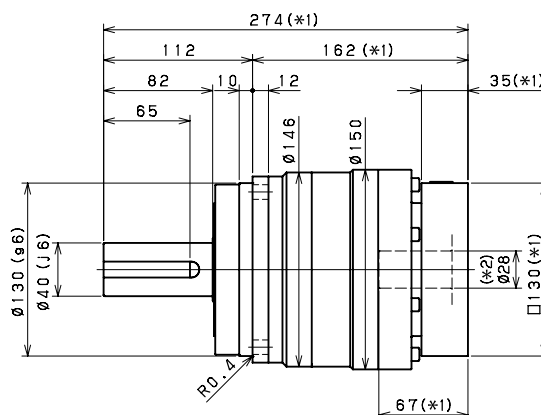
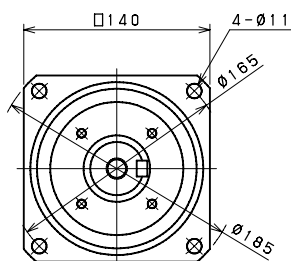
VRS-140 – 2-Stage Specifications

Frame Size	140								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000						
Maximum Input Speed	[rpm]	*5	4000						
No Load Running Torque	[Nm]	*6	0.56						
Permitted Radial Load	[N]	*7	10000	10000	10000	10000	10000	10000	10000
Permitted Axial Load	[N]	*8	9000	9000	9000	9000	9000	9000	9000
Maximum Radial Load	[N]	*9	10000						
Maximum Axial Load	[N]	*10	9000						
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.100	0.810	0.810	0.800	0.800	0.800	0.800
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.000	2.800	2.800	2.800	2.800	2.800	2.800
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	11.000	10.000	10.000	10.000	10.000	10.000	10.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	60						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	19						

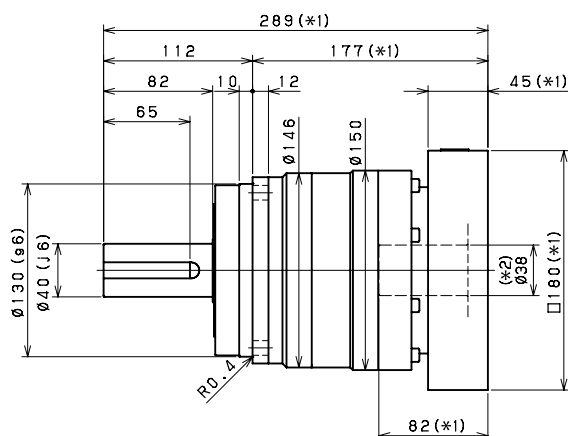
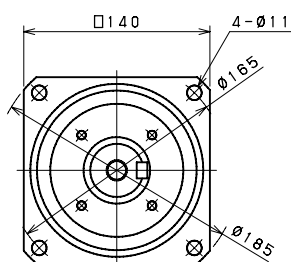
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRS140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-140 – 1-Stage Dimensions

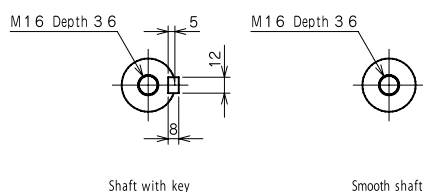
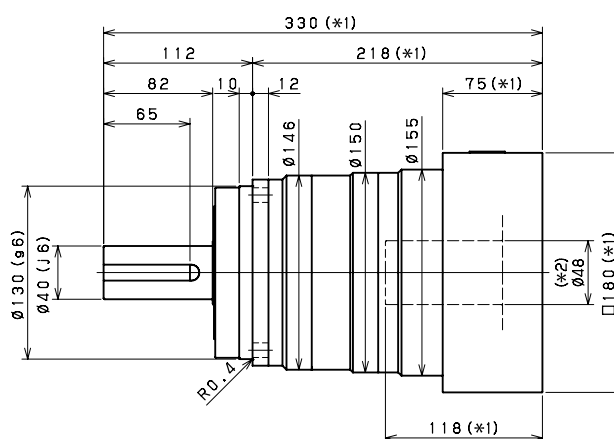
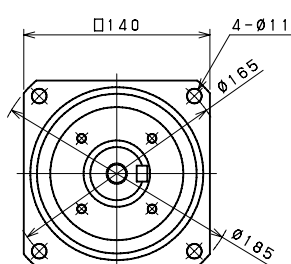
Input shaft bore $\leq \varnothing 28$



Input shaft bore $\leq \varnothing 38$



Input shaft bore $\leq \varnothing 48$

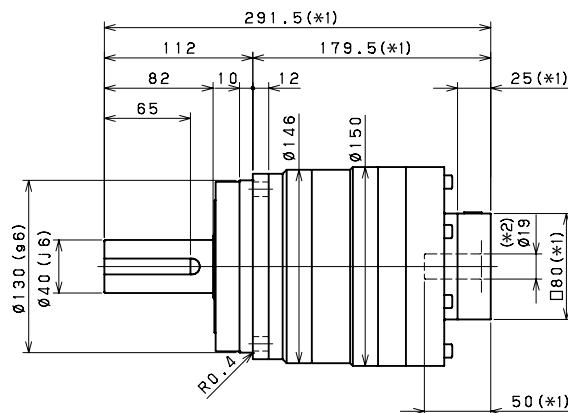
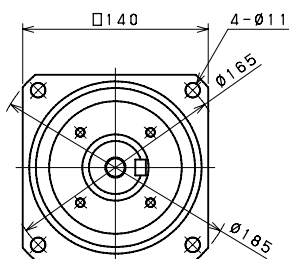


*1) Length will vary depending on motor

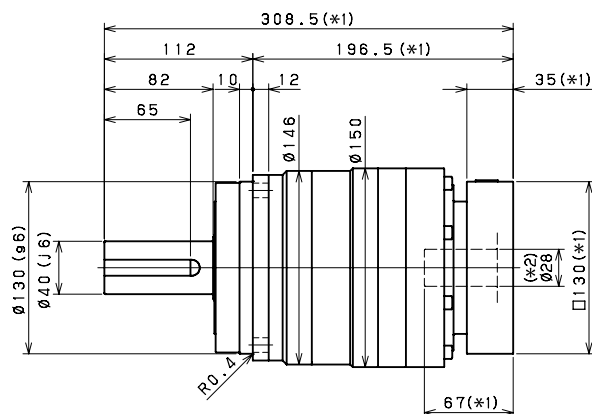
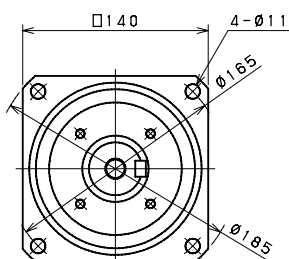
*2) Bushing will be inserted to adapt to motor shaft

VRS-140 – 2-Stage Dimensions

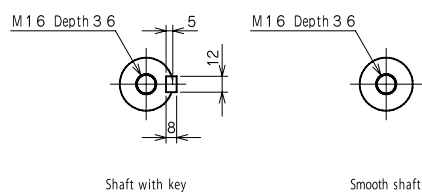
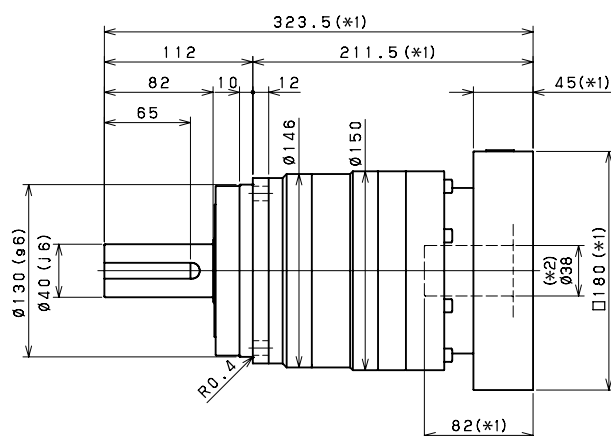
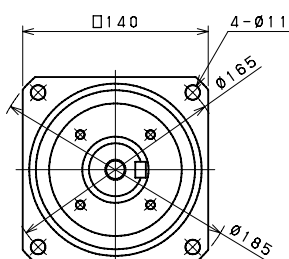
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



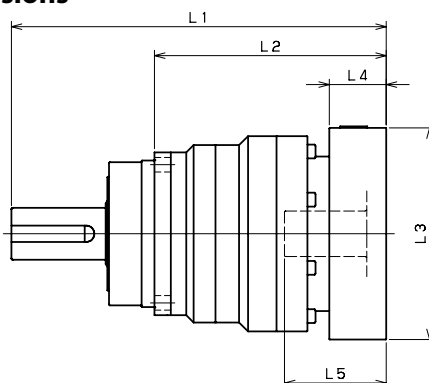
Input shaft bore $\leq \phi 38$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRS-140 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRS-140-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	--	--	--	--	--	--
	EB•ED	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	GB•GD•GJ	--	--	--	--	--	--
	HA	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	JA	--	--	--	--	--	--
VRS-140-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	274	239	162	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	274	239	162	□115	35	67
	HA•HC•HD	274	239	162	□130	35	67
	HB	284	239	172	□130	45	77
	HF	269	239	157	□130	30	62
	JA•JB•JC•JF	274	239	162	□150	35	67
	KA•KB•KE	274	239	162	□180	35	67
	LA	274	239	162	□200	35	67
	LB	284	239	172	□200	45	77
	MA	274	239	162	□220	35	67
	MB	284	239	172	□220	45	77
VRS-140-□-□-38** (Input shaft bore ≤ φ38)	HA	289	244	177	□130	45	82
	HB•HE	284	244	172	□130	40	77
	JA	289	244	177	□150	45	82
	KA•KB•KC	289	244	177	□180	45	82
	KD	324	244	212	□180	80	117
	KE	304	244	192	□180	60	97
	LB	299	244	187	□200	55	92
	MA•MB	289	244	177	□220	45	82
	MC	304	244	192	□220	60	97
	MD	299	244	187	□220	55	92
VRS-140-□-□-48** (Input shaft bore ≤ φ48)	KA	330	255	218	□180	75	118
	KB•KC	310	255	198	□180	55	98
	LA	310	255	198	□200	55	98
	MA	310	255	198	□220	55	98
	MB	330	255	218	□220	75	118

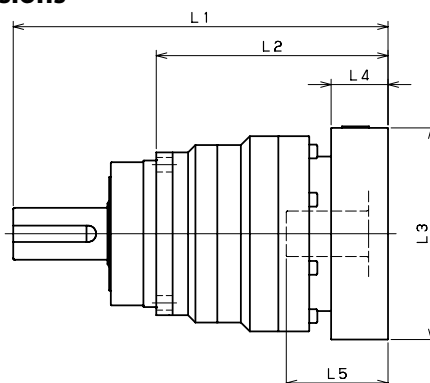
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-140 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRS-140-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	291.5	266.5	179.5	□80	25	50
	EB•ED	291.5	266.5	179.5	□90	25	50
	FA	291.5	266.5	179.5	□100	25	50
	FB	301.5	266.5	189.5	□100	35	60
	GB•GD•GJ	291.5	266.5	179.5	□115	25	50
	HA	291.5	266.5	179.5	□130	25	50
	HB	306.5	266.5	194.5	□130	40	65
	JA	301.5	266.5	189.5	□150	35	60
VRS-140-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	308.5	273.5	196.5	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	308.5	273.5	196.5	□115	35	67
	HA•HC•HD	308.5	273.5	196.5	□130	35	67
	HB	318.5	273.5	206.5	□130	45	77
	HF	303.5	273.5	191.5	□130	30	62
	JA•JB•JC•JF	308.5	273.5	196.5	□150	35	67
	KA•KB•KE	308.5	273.5	196.5	□180	35	67
	LA	308.5	273.5	196.5	□200	35	67
	LB	318.5	273.5	206.5	□200	45	77
	MA	308.5	273.5	196.5	□220	35	67
	MB	318.5	273.5	206.5	□220	45	77
VRS-140-□-□-38** (Input shaft bore ≤ φ38)	HA	323.5	278.5	211.5	□130	45	82
	HB•HE	318.5	278.5	206.5	□130	40	77
	JA	323.5	278.5	211.5	□150	45	82
	KA•KB•KC	323.5	278.5	211.5	□180	45	82
	KD	358.5	278.5	246.5	□180	80	117
	KE	338.5	278.5	226.5	□180	60	97
	LB	333.5	278.5	221.5	□200	55	92
	MA•MB	323.5	278.5	211.5	□220	45	82
	MC	338.5	278.5	226.5	□220	60	97
	MD	333.5	278.5	221.5	□220	55	92
VRS-140-□-□-48** (Input shaft bore ≤ φ48)	KA	364.5	289.5	252.5	□180	75	118
	KB•KC	344.5	289.5	232.5	□180	55	98
	LA	344.5	289.5	232.5	□200	55	98
	MA	344.5	289.5	232.5	□220	55	98
	MB	364.5	289.5	252.5	□220	75	118

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-180 – 1-Stage Specifications

Frame Size	180									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	750	500	500
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	1400	970	970
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2750	2200	2200
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	2.68							
Permitted Radial Load	[N]	*7	12000	13000	14000	15000	16000	17000	17000	18000
Permitted Axial Load	[N]	*8	16000	17000	17000	17000	17000	17000	17000	17000
Maximum Radial Load	[N]	*9	19000							
Maximum Axial Load	[N]	*10	17000							
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	42.000	27.000	21.000	18.000	16.000	15.000	14.000	14.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	64.000	49.000	43.000	40.000	38.000	37.000	36.000	36.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	120.000	110.000	100.000	100.000	98.000	97.000	96.000	96.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc/min]	*12	175							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	39							

VRS-180 – 2-Stage Specifications

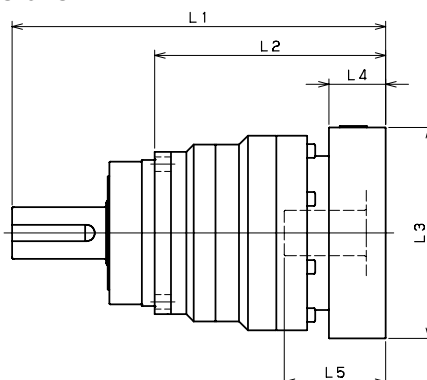
Frame Size	180									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	750	750
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	1400	1400
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2750	2750
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	1.39							
Permitted Radial Load	[N]	*7	19000	19000	19000	19000	19000	19000	19000	19000
Permitted Axial Load	[N]	*8	17000	17000	17000	17000	17000	17000	17000	17000
Maximum Radial Load	[N]	*9	19000							
Maximum Axial Load	[N]	*10	17000							
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.700	5.400	4.300	4.200	4.900	3.200	4.100	3.200
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12.000	13.000	12.000	12.000	13.000	11.000	12.000	11.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	34.000	35.000	34.000	34.000	35.000	33.000	34.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc/min]	*12	175							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	39							

VRS-180 – 2-Stage Specifications

Frame Size	180								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	500
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	970
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2200
Nominal Input Speed	[rpm]	*4	1500						
Maximum Input Speed	[rpm]	*5	3000						
No Load Running Torque	[Nm]	*6	1.39						
Permitted Radial Load	[N]	*7	19000	19000	19000	19000	19000	19000	19000
Permitted Axial Load	[N]	*8	17000	17000	17000	17000	17000	17000	17000
Maximum Radial Load	[N]	*9	19000						
Maximum Axial Load	[N]	*10	17000						
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.000	3.100	3.100	3.100	3.100	3.100	3.100
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12.000	11.000	11.000	11.000	11.000	11.000	11.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	34.000	33.000	33.000	33.000	33.000	33.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	175						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	39						

- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRS180
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-180 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRS-180-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	--	--	--	--	--	--
	GA•GB•GC•GD•GE•GF•GG•GH	--	--	--	--	--	--
	HA•HC•HD	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	HF	--	--	--	--	--	--
	JA•JB•JC•JF	--	--	--	--	--	--
	KA•KB•KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA	--	--	--	--	--	--
	MB	--	--	--	--	--	--
VRS-180-□-□-38** (Input shaft bore ≤ φ38)	HA	315.5	270.5	203.5	□130	45	82
	HB•HE	310.5	270.5	198.5	□130	40	77
	JA	315.5	270.5	203.5	□150	45	82
	KA•KB•KC	315.5	270.5	203.5	□180	45	82
	KD	350.5	270.5	238.5	□180	80	117
	KE	330.5	270.5	218.5	□180	60	97
	LB	325.5	270.5	213.5	□200	55	92
	MA•MB	315.5	270.5	203.5	□220	45	82
	MC	330.5	270.5	218.5	□220	60	97
	MD	325.5	270.5	213.5	□220	55	92
	NA	315.5	270.5	203.5	□250	45	82
VRS-180-□-□-48** (Input shaft bore ≤ φ48)	KA	351.5	276.5	239.5	□180	75	118
	KB•KC	331.5	276.5	219.5	□180	55	98
	LA	331.5	276.5	219.5	□200	55	98
	MA	331.5	276.5	219.5	□220	55	98
	MB	351.5	276.5	239.5	□220	75	118
	NA	351.5	276.5	239.5	□250	75	118
	PA	351.5	276.5	239.5	□280	75	118
VRS-180-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	363	283	251	□220	80	122
	NA•NC	363	283	251	□250	80	122
	NB•ND	393	283	281	□250	110	152
	PA	383	283	271	□280	100	142
	PB	393	283	281	□280	110	152

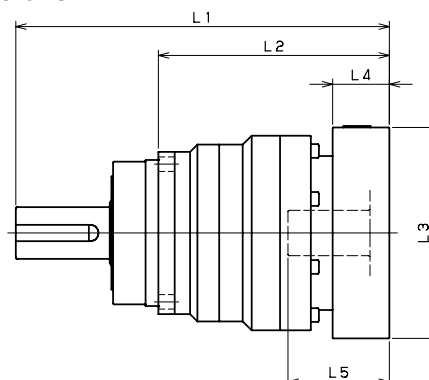
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-180 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRS-180-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	345	310	233	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	345	310	233	□115	35	67
	HA•HC•HD	345	310	233	□130	35	67
	HB	355	310	243	□130	45	77
	HF	340	310	228	□130	30	62
	JA•JB•JC•JF	345	310	233	□150	35	67
	KA•KB•KE	345	310	233	□180	35	67
	LA	345	310	233	□200	35	67
	LB	355	310	243	□200	45	77
	MA	345	310	233	□220	35	67
	MB	355	310	243	□220	45	77
VRS-180-□-□-38** (Input shaft bore ≤ φ38)	HA	360	315	248	□130	45	82
	HB•HE	355	315	243	□130	40	77
	JA	360	315	248	□150	45	82
	KA•KB•KC	360	315	248	□180	45	82
	KD	395	315	283	□180	80	117
	KE	375	315	263	□180	60	97
	LB	370	315	258	□200	55	92
	MA•MB	360	315	248	□220	45	82
	MC	375	315	263	□220	60	97
	MD	370	315	258	□220	55	92
	NA	360	315	248	□250	45	82
VRS-180-□-□-48** (Input shaft bore ≤ φ48)	KA	396	321	284	□180	75	118
	KB•KC	376	321	264	□180	55	98
	LA	376	321	264	□200	55	98
	MA	376	321	264	□220	55	98
	MB	396	321	284	□220	75	118
	NA	396	321	284	□250	75	118
	PA	396	321	284	□280	75	118
VRS-180-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	--	--	--	--	--	--
	NA•NC	--	--	--	--	--	--
	NB•ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-210 – 1-Stage Specifications

Frame Size	210									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1500	1000	1000
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	2200	1900	1600
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	5000	4000	4000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	2.92							
Permitted Radial Load	[N]	*7	17000	18000	20000	21000	22000	23000	24000	24000
Permitted Axial Load	[N]	*8	22000	22000	22000	22000	22000	22000	22000	22000
Maximum Radial Load	[N]	*9	24000							
Maximum Axial Load	[N]	*10	22000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	92.000	63.000	53.000	47.000	43.000	40.000	39.000	38.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	150.000	120.000	110.000	110.000	100.000	100.000	99.000	98.000
Efficiency	[%]	*11	97							
Torsional Rigidity	[Nm/arc/min]	*12	400							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	59							

VRS-210 – 2-Stage Specifications

Frame Size	210									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1500	1500
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	1600	2300	2300
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	5000	5000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	1.14							
Permitted Radial Load	[N]	*7	24000	24000	24000	24000	24000	24000	24000	24000
Permitted Axial Load	[N]	*8	22000	22000	22000	22000	22000	22000	22000	22000
Maximum Radial Load	[N]	*9	24000							
Maximum Axial Load	[N]	*10	22000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	14.000	16.000	14.000	14.000	15.000	12.000	13.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	36.000	37.000	36.000	35.000	36.000	34.000	35.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92							
Torsional Rigidity	[Nm/arc/min]	*12	400							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	61							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	60							

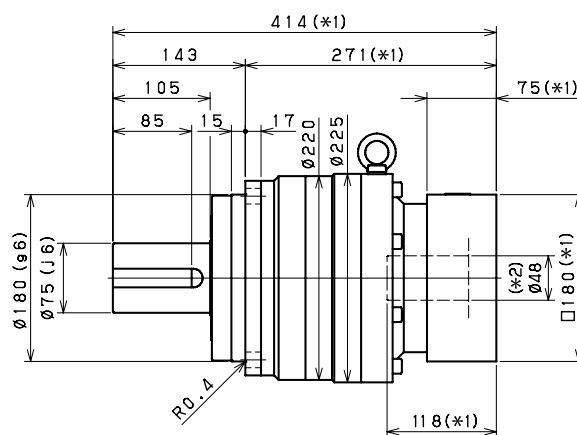
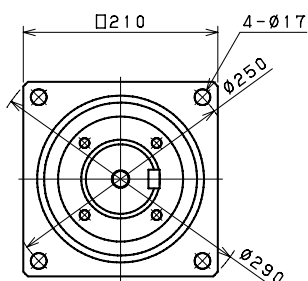
VRS-210 – 2-Stage Specifications

Frame Size	210								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1000
Maximum Acceleration Torque	[Nm]	*2	1300	2300	2300	2300	1800	1300	1200
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	4000
Nominal Input Speed	[rpm]	*4	1000						
Maximum Input Speed	[rpm]	*5	2000						
No Load Running Torque	[Nm]	*6	1.14						
Permitted Radial Load	[N]	*7	24000	24000	24000	24000	24000	24000	24000
Permitted Axial Load	[N]	*8	22000	22000	22000	22000	22000	22000	22000
Maximum Radial Load	[N]	*9	24000						
Maximum Axial Load	[N]	*10	22000						
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	13.000	12.000	12.000	12.000	12.000	12.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	35.000	33.000	33.000	33.000	33.000	33.000	33.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92						
Torsional Rigidity	[Nm/arc/min]	*12	400						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	61						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	60						

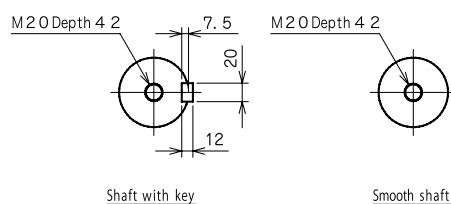
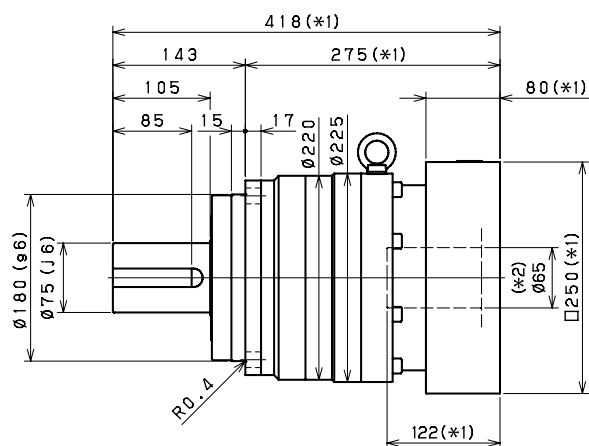
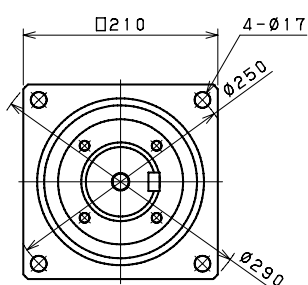
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,5000 rpm for VRS210;
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-210 – 1-Stage Dimensions

Input shaft bore $\leq \phi 48$



Input shaft bore $\leq \phi 65$

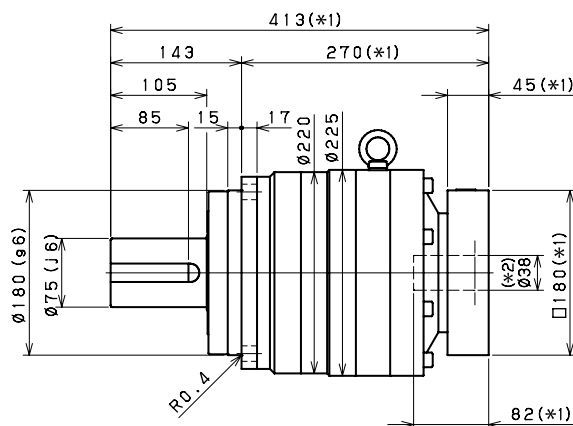
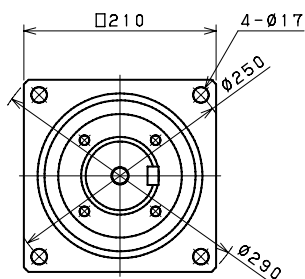


*1) Length will vary depending on motor.

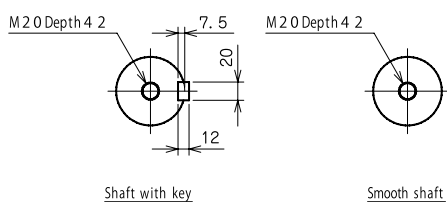
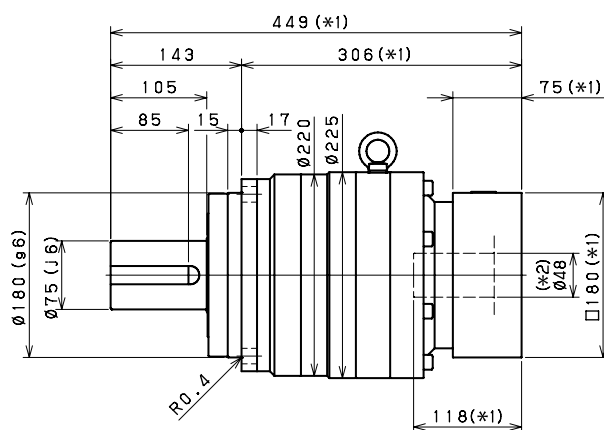
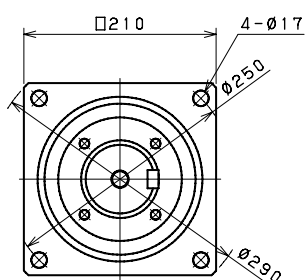
*2) Bushing will be inserted to adapt to motor shaft

VRS-210 – 2-Stage Dimensions

Input shaft bore $\leq \varnothing 38$



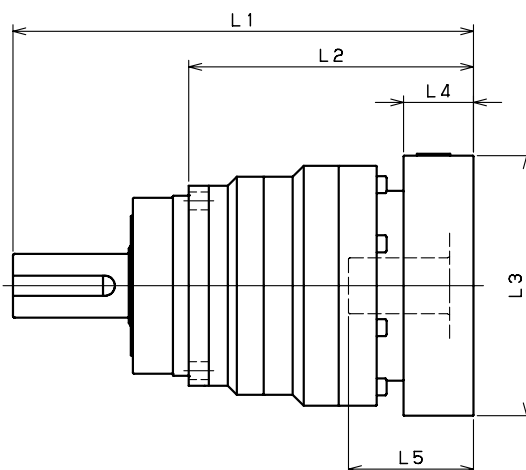
Input shaft bore $\leq \varnothing 48$



*1) Length will vary depending on motor.

*2) Bushing will be inserted to adapt to motor shaft

VRS-210 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRS-210-□-□-38** (Input shaft bore ≤ φ38)	HA	--	--	--	--	--	--
	HB•HE	--	--	--	--	--	--
	JA	--	--	--	--	--	--
	KA•KB•KC	--	--	--	--	--	--
	KD	--	--	--	--	--	--
	KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA•MB	--	--	--	--	--	--
	MC	--	--	--	--	--	--
	MD	--	--	--	--	--	--
	NA	--	--	--	--	--	--
VRS-210-□-□-48** (Input shaft bore ≤ φ48)	KA	414	339	271	□180	75	118
	KB•KC	394	339	251	□180	55	98
	LA	394	339	251	□200	55	98
	MA	394	339	251	□220	55	98
	MB	414	339	271	□220	75	118
	NA	414	339	271	□250	75	118
	PA	414	339	271	□280	75	118
VRS-210-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	418	338	275	□220	80	122
	NA•NC	418	338	275	□250	80	122
	NB•ND	448	338	305	□250	110	152
	PA	438	338	295	□280	100	142
	PB	448	338	305	□280	110	152
	QA•QB	438	338	295	□320	100	142

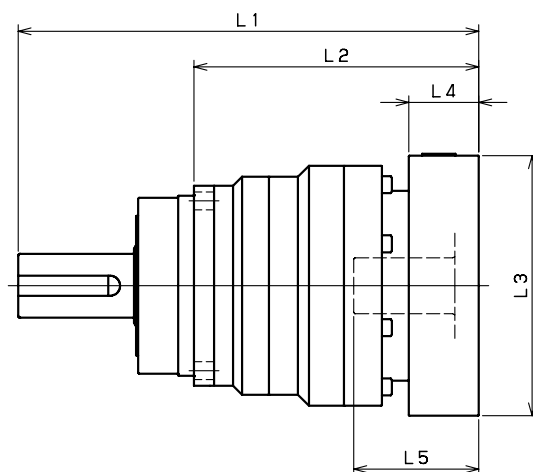
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-210 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRS-210-□-□-38** (Input shaft bore ≤ φ38)	HA	413	368	270	□130	45	82
	HB-HE	408	368	265	□130	40	77
	JA	413	368	270	□150	45	82
	KA-KB-KC	413	368	270	□180	45	82
	KD	448	368	305	□180	80	117
	KE	428	368	285	□180	60	97
	LA	413	368	270	□200	45	82
	LB	423	368	280	□200	55	92
	MA-MB	413	368	270	□220	45	82
	MC	428	368	285	□220	60	97
	MD	423	368	280	□220	55	92
VRS-210-□-□-48** (Input shaft bore ≤ φ48)	NA	413	368	270	□250	45	82
	KA	449	374	306	□180	75	118
	KB-KC	429	374	286	□180	55	98
	LA	429	374	286	□200	55	98
	MA	429	374	286	□220	55	98
	MB	449	374	306	□220	75	118
	NA	449	374	306	□250	75	118
VRS-210-□-□-65** (Input shaft bore ≤ φ65)	PA	449	374	306	□280	75	118
	MA-MB-MC-MD	--	--	--	--	--	--
	NA-NC	--	--	--	--	--	--
	NB-ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--
	QA-QB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRS-240 – 1-Stage Specifications

Frame Size	240									
Stage	1-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	1600	2400	2400	2400	2400	2400	1600	1600
Maximum Acceleration Torque	[Nm]	*2	2500	3700	3700	3700	3700	3600	3000	2600
Emergency Stop Torque	[Nm]	*3	6000	8000	8000	8000	8000	8000	6000	6000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	5.96							
Permitted Radial Load	[N]	*7	21000	22000	24000	25000	26000	28000	29000	29000
Permitted Axial Load	[N]	*8	27000	27000	27000	27000	27000	27000	27000	27000
Maximum Radial Load	[N]	*9	30000							
Maximum Axial Load	[N]	*10	27000							
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	220.000	160.000	130.000	120.000	110.000	110.000	110.000	100.000
Efficiency	[%]	*11	97							
Torsional Rigidity	[Nm/arc/min]	*12	550							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	62							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	85							

VRS-240 – 2-Stage Specifications

Frame Size	240									
Stage	2-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	1600	2400	2400	2400	2400	1600	2400	2400
Maximum Acceleration Torque	[Nm]	*2	2500	3700	3700	3700	3700	2500	3700	3700
Emergency Stop Torque	[Nm]	*3	6000	8000	8000	8000	8000	6000	8000	8000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	1.28							
Permitted Radial Load	[N]	*7	30000	30000	30000	30000	30000	30000	30000	30000
Permitted Axial Load	[N]	*8	27000	27000	27000	27000	27000	27000	27000	27000
Maximum Radial Load	[N]	*9	30000							
Maximum Axial Load	[N]	*10	27000							
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	40.000	43.000	39.000	39.000	41.000	35.000	38.000	35.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92							
Torsional Rigidity	[Nm/arc/min]	*12	550							
Maximum Torsional Backlash	[arc/min]	--	≤ 3							
Noise Level	[dB]	*13	62							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	89							

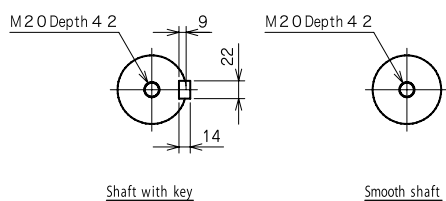
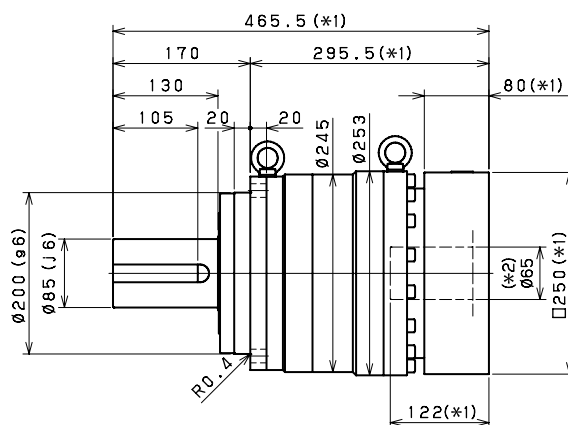
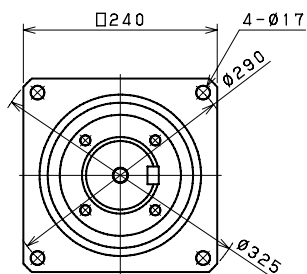
VRS-240 – 2-Stage Specifications

Frame Size	240								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	1600	2400	2400	2400	2400	1600	1600
Maximum Acceleration Torque	[Nm]	*2	2100	3700	3700	3700	2700	2100	1800
Emergency Stop Torque	[Nm]	*3	6000	8000	8000	8000	8000	6000	6000
Nominal Input Speed	[rpm]	*4	1000						
Maximum Input Speed	[rpm]	*5	2000						
No Load Running Torque	[Nm]	*6	1.28						
Permitted Radial Load	[N]	*7	30000	30000	30000	30000	30000	30000	30000
Permitted Axial Load	[N]	*8	27000	27000	27000	27000	27000	27000	27000
Maximum Radial Load	[N]	*9	30000						
Maximum Axial Load	[N]	*10	27000						
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	38.000	35.000	35.000	34.000	34.000	34.000	34.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92						
Torsional Rigidity	[Nm/arc/min]	*12	550						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	62						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	89						

- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRS240
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRS-240 – 1-Stage Dimensions

Input shaft bore $\leq \phi 65$

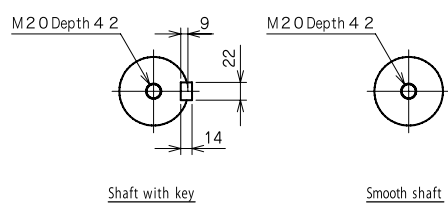
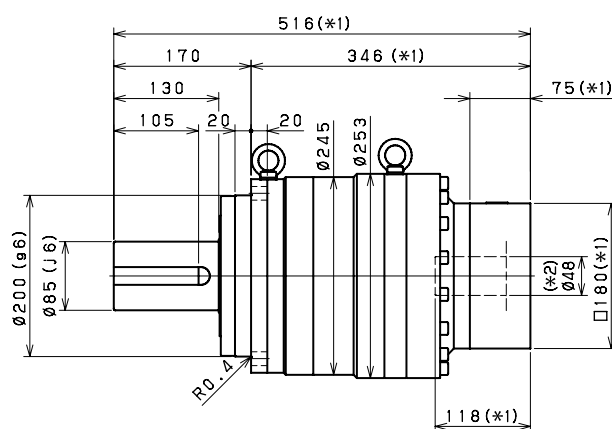
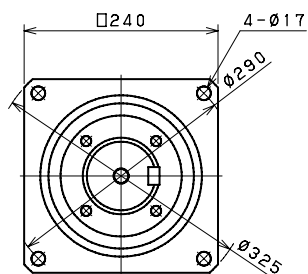


*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

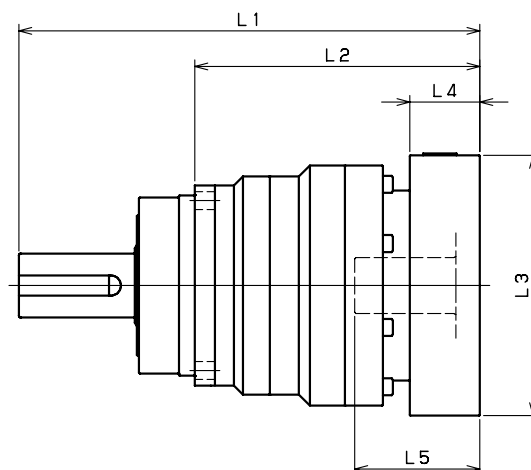
VRS-240 – 2-Stage Dimensions

Input shaft bore $\leq \phi 48$



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRS-240 – 1-Stage Adapter Dimensions



Model number	**: Adapter code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRS-240-□-□-48** (Input shaft bore ≤ φ48)	KA	--	--	--	--	--	--
	KB-KC	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	MA	--	--	--	--	--	--
	MB	--	--	--	--	--	--
	NA	--	--	--	--	--	--
	PA	--	--	--	--	--	--
VRS-240-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	465.5	385.5	295.5	□220	80	122
	NA-NC	465.5	385.5	295.5	□250	80	122
	NB-ND	495.5	385.5	325.5	□250	110	152
	PA	485.5	385.5	315.5	□280	100	142
	PB	495.5	385.5	325.5	□280	110	152
	QA-QB	485.5	385.5	315.5	□320	100	142

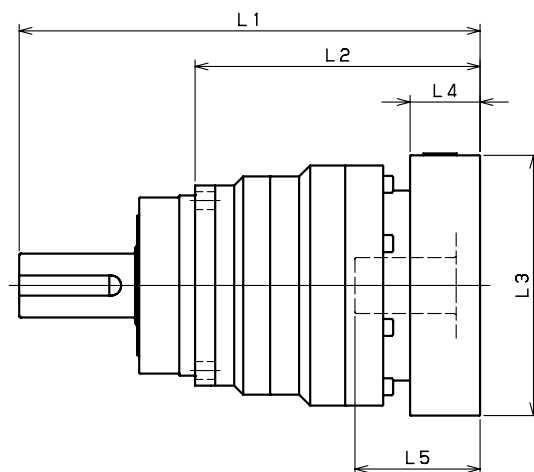
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRS-240 – 2-Stage Adapter Dimensions



Model number	**: Adapter code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRS-240-□-□-48** (Input shaft bore ≤ φ48)	KA	516	441	346	□180	75	118
	KB-KC	496	441	326	□180	55	98
	LA	496	441	326	□200	55	98
	MA	496	441	326	□220	55	98
	MB	516	441	346	□220	75	118
	NA	516	441	346	□250	75	118
	PA	516	441	346	□280	75	118
VRS-240-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	--	--	--	--	--	--
	NA-NC	--	--	--	--	--	--
	NB-ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--
	QA-QB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

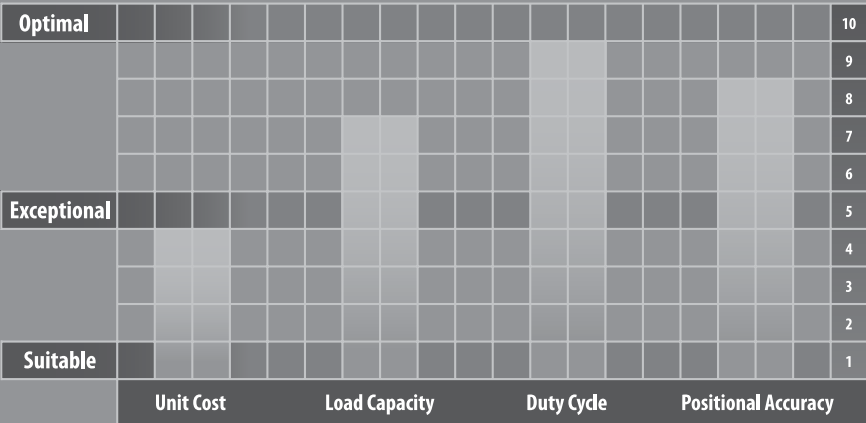
For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-SERIES

The VRT series sets the new standard in applications requiring extremely high-torque ratings and rigidity. The compact design and hub-style output is ideal for equipment requiring high speed, high precision indexing movement. The remarkable torsional stiffness and the low backlash of the planetary gearing combine to provide outstanding positioning accuracy.

With a backlash rating less than 3 arc/minutes and exceptional torque handling capabilities, the VRT offers a high performance robust planetary solution for OEM customers. The VRT reducer is often used for larger indexing applications and dial tables commonly found in packaging and filling equipment and assembly automation systems.

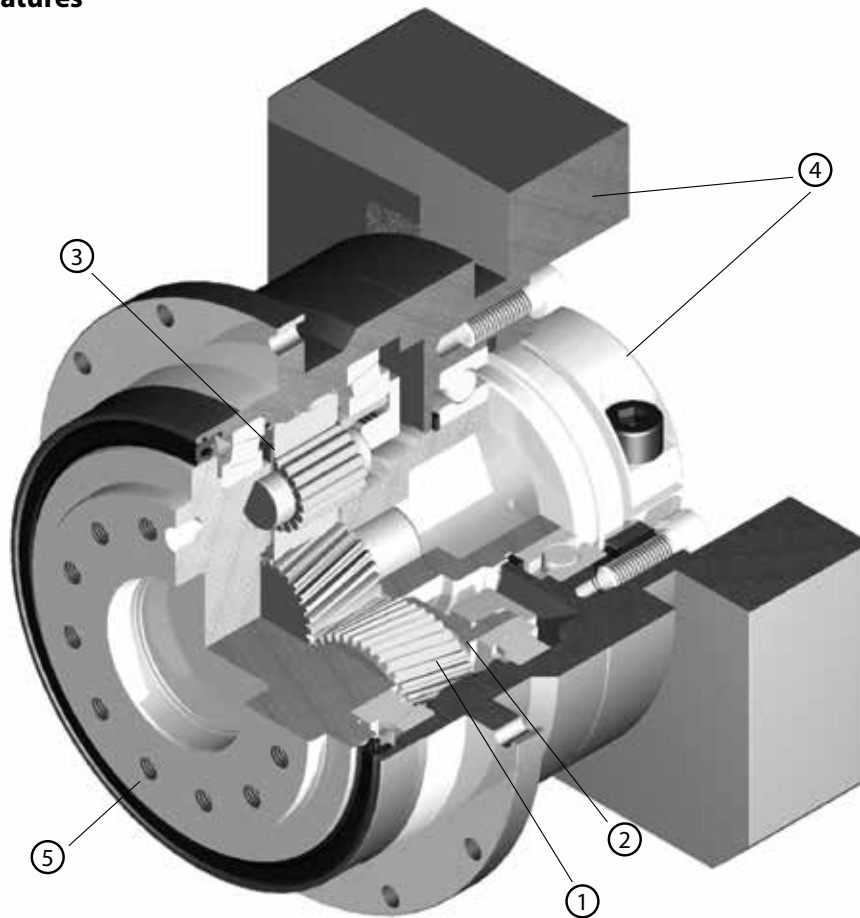




VRT-SERIES

- ISO9409 robotics industry mounting interface
- Superior flexibility in mounting of pinions, pulleys and turntables
- Exceptional torsional rigidity for high positional accuracy needs
- Nice compact and robust design
- Impressive radial and axial load capability

VRT-Series – Features



- ① High precision: Standard backlash is 3 arc/min, ideal for higher levels of positional accuracy
- ② High rigidity & torque: Rigidity and torque capacity are achieved by using uncaged needle roller bearings
- ③ High load capacity: Tapered roller bearings were added to the output section to increase radial and axial load ratings on most frame sizes
- ④ Adapter-bushing connection: Enables a simple, effective attachment to most servo motors
- ⑤ No leakage through the seal: High viscosity, anti-separation grease does not liquefy and does not migrate away from the gears
- ⑥ Maintenance-free: No need to replace the grease for the life of the unit. The reducer can be positioned in any orientation

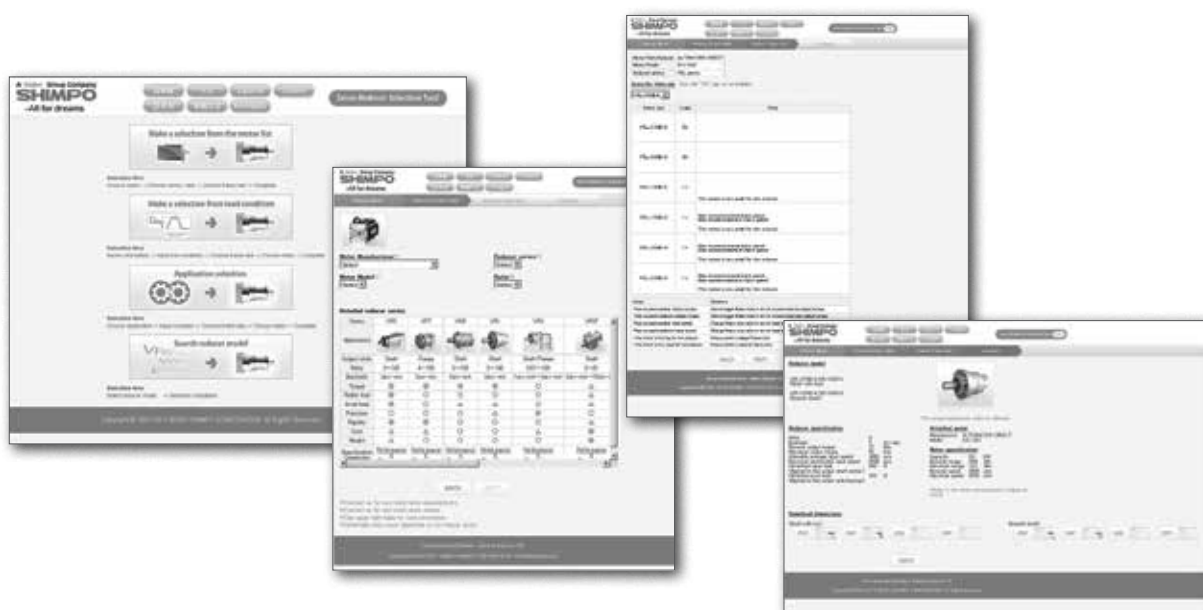
VRT-Series – Model Code

VR	T	-	090	-	7	-	F	3	-	19HB16
										* Adapter flange code
										Backlash 3... 3arc-min
										Output style F... Flange output
										Ratio Single: 4, 5, 7, 10 Double: 16, 20, 25, 28, 35, 40, 50, 70, 100
										Frame size: 047, 064, 090, *110B, *140B, *200B, *255B, *285B
										* Frames > 090 are a different generation of design, include letter B with frame size
										Series name VRT Series
										Model name for ABLE reducer

*1) Adapter flange code
Adapter flange code varies depending on the motor.

Contact us for additional information or refer to our online reducer selection tool.

Selection tool www.nidec-shimpo.co.jp/selection/eng



VRT-047 – 1-Stage Specifications

Frame Size	047								
Stage	1-Stage								
Ratio	Unit	Notes	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	9	9	9	9	9	6	6
Maximum Acceleration Torque	[Nm]	*2	18	18	18	18	18	12	12
Emergency Stop Torque	[Nm]	*3	35	35	35	35	35	30	30
Nominal Input Speed	[rpm]	*4	4000						
Maximum Input Speed	[rpm]	*5	8000						
No Load Running Torque	[Nm]	*6	0.03						
Permitted Radial Load	[N]	*7	270	300	310	330	350	360	370
Permitted Axial Load	[N]	*8	300	330	360	390	410	430	450
Maximum Radial Load	[N]	*9	1100						
Maximum Axial Load	[N]	*10	550						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.052	0.043	0.038	0.036	0.034	0.033	0.032
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.090	0.081	0.077	0.074	0.072	0.071	0.071
Efficiency	[%]	*11	95						
Torsional Rigidity	[Nm/arc/min]	*12	2						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	≤ 61						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	0.7						

VRT-047 – 2-Stage Specifications

Frame Size	047								
Stage	2-Stage								
Ratio	Unit	Notes	16	20	25	28	35	40	45
Nominal Output Torque	[Nm]	*1	9	9	9	9	9	9	6
Maximum Acceleration Torque	[Nm]	*2	18	18	18	18	18	18	12
Emergency Stop Torque	[Nm]	*3	35	35	35	35	35	35	30
Nominal Input Speed	[rpm]	*4	4000						
Maximum Input Speed	[rpm]	*5	8000						
No Load Running Torque	[Nm]	*6	0.01						
Permitted Radial Load	[N]	*7	440	470	510	530	570	590	620
Permitted Axial Load	[N]	*8	550	550	550	550	550	550	550
Maximum Radial Load	[N]	*9	1100						
Maximum Axial Load	[N]	*10	550						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.039	0.035	0.034	0.038	0.034	0.030	0.034
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	2						
Maximum Torsional Backlash	[arc/min]	--	≤ 5						
Noise Level	[dB]	*13	≤ 61						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	0.8						

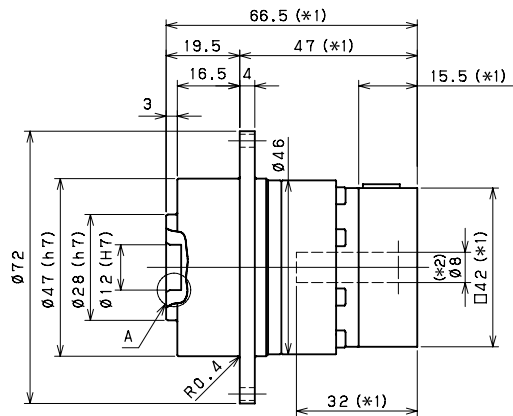
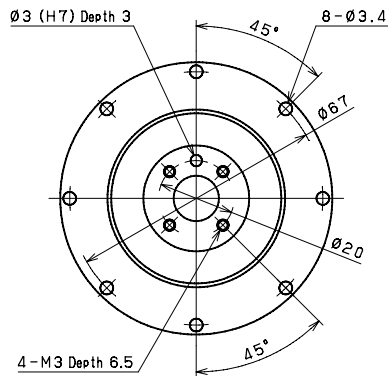
VRT-047 – 2-Stage Specifications

Frame Size	047							
Stage	2-Stage							
Ratio	Unit	Notes	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	9	9	9	9	6	6
Maximum Acceleration Torque	[Nm]	*2	18	18	18	18	12	12
Emergency Stop Torque	[Nm]	*3	35	35	35	35	30	30
Nominal Input Speed	[rpm]	*4	4000					
Maximum Input Speed	[rpm]	*5	8000					
No Load Running Torque	[Nm]	*6	0.01					
Permitted Radial Load	[N]	*7	640	680	710	750	780	800
Permitted Axial Load	[N]	*8	550	550	550	550	550	550
Maximum Radial Load	[N]	*9	1100					
Maximum Axial Load	[N]	*10	550					
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.030	0.030	0.030	0.030	0.030	0.030
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--
Efficiency	[%]	*11	90					
Torsional Rigidity	[Nm/arc/min]	*12	2					
Maximum Torsional Backlash	[arc/min]	--	≤ 5					
Noise Level	[dB]	*13	≤ 61					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0 - 40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	0.8					

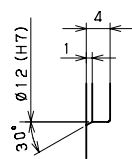
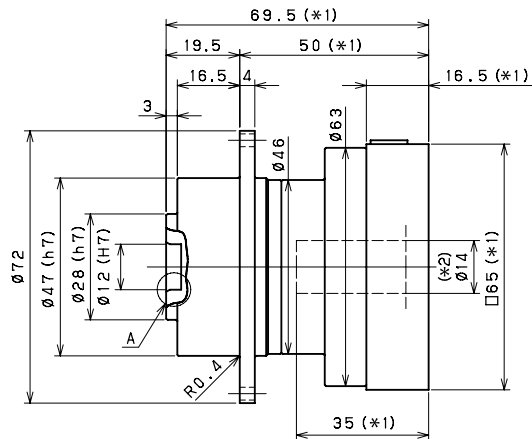
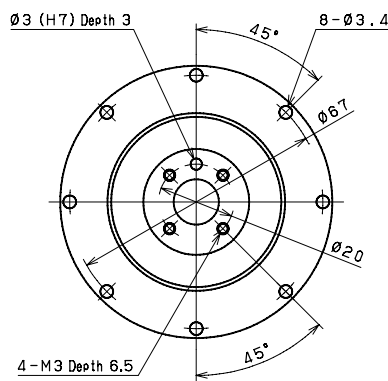
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 4,000 rpm for VRT 047
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-o47 – 1-Stage Dimensions

Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



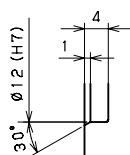
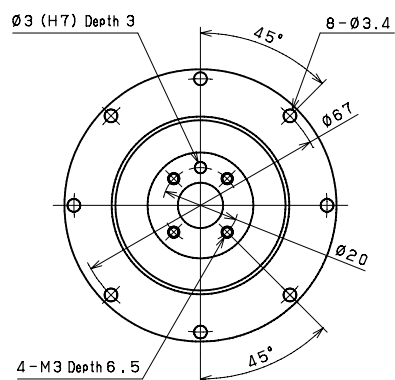
Enlarged detail A

*1) Length will vary depending on motor

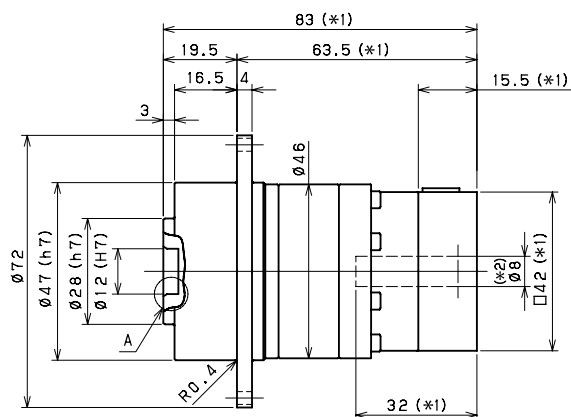
*2) Bushing will be inserted to adapt to motor shaft

VRT-o47 – 2-Stage Dimensions

Input shaft bore $\leq \phi 8$



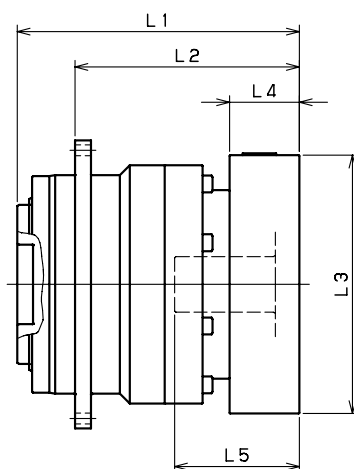
Enlarged detail A



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRT-047 – 1-Stage Adapter Dimensions



Model Number	**: Adapter Code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRT-047-□-□-S8** (Input shaft bore ≤ φ8)	AA-AC-AD-AF-AG	66.5	51	47	□42	15.5	32
	AB-AE-AH-AJ-AK	71.5	51	52	□42	20.5	37
	BC-BF	66.5	51	47	□60	15.5	32
	CA	71.5	51	52	□60	20.5	37
VRT-047-□-□-14** (Input shaft bore ≤ φ14)	BA-BB-BD-BE-BF-BG-BJ-BK-BP	69.5	53	50	□65	16.5	35
	BC-BH-BM-BN	74.5	53	55	□65	21.5	40
	BL	79.5	53	60	□65	26.5	45

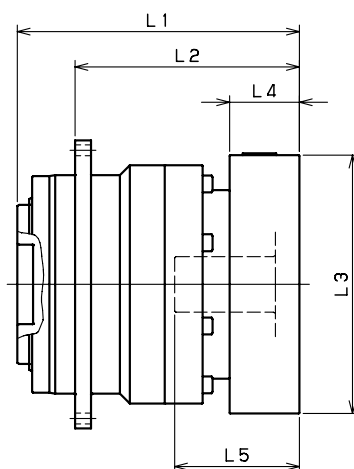
*1) Single reduction : 1/4 - 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-047 – 2-Stage Adapter Dimensions



Model Number	**: Adapter Code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRT-047-□-□-S8** (Input shaft bore ≤ φ8)	AA-AC-AD-AF-AG	83	67.5	63.5	□42	15.5	32
	AB-AE-AH-AJ-AK	88	67.5	68.5	□42	20.5	37
	BC-BF	83	67.5	63.5	□60	15.5	32
	CA	88	67.5	68.5	□60	20.5	37
VRT-047-□-□-14** (Input shaft bore ≤ φ14)	BA-BB-BD-BE-BF-BG-BJ-BK-BP	--	--	--	--	--	--
	BC-BH-BM-BN	--	--	--	--	--	--
	BL	--	--	--	--	--	--

*1) Double reduction : 1/16 - 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-o64 – 1-Stage Specifications

Frame Size	064								
Stage	1-Stage								
Ratio	Unit	Note	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	27	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	50	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	100	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.08						
Permitted Radial Load	[N]	*7	370	400	420	440	460	480	500
Permitted Axial Load	[N]	*8	360	390	430	460	480	510	530
Maximum Radial Load	[N]	*9	1500						
Maximum Axial Load	[N]	*10	750						
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.130	0.100	0.085	0.075	0.068	0.064	0.062
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.210	0.180	0.170	0.150	0.150	0.140	0.140
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.400	0.400	0.400	0.400	0.400	0.400	0.400
Efficiency	[%]	*11	95						
Torsional Rigidity	[Nm/arc/min]	*12	3						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	≤ 66						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	1.4						

VRT-o64 – 2-Stage Specifications

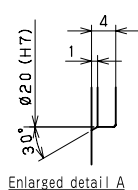
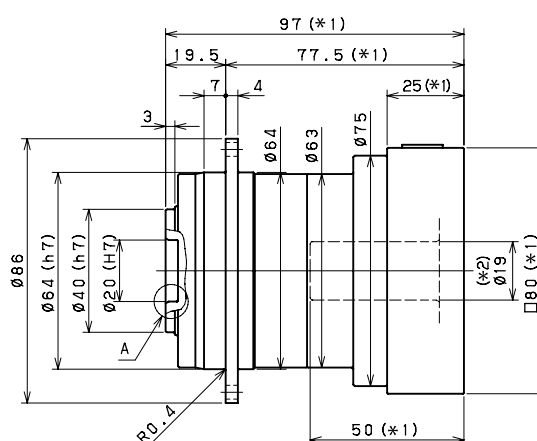
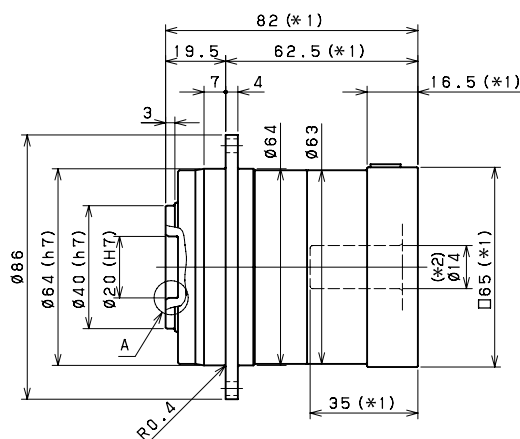
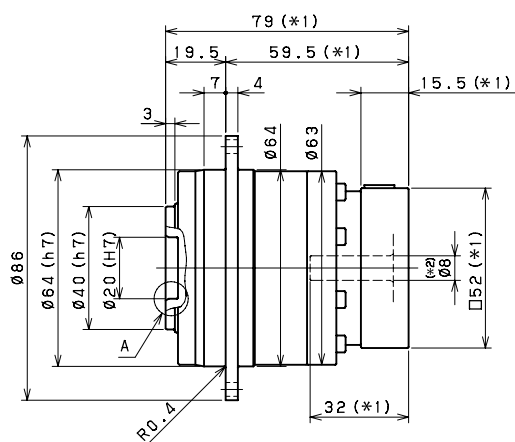
Frame Size	064								
Stage	2-Stage								
Ratio	Unit	Note	16	20	25	28	35	40	45
Nominal Output Torque	[Nm]	*1	27	27	27	27	27	27	18
Maximum Acceleration Torque	[Nm]	*2	50	50	50	50	50	50	35
Emergency Stop Torque	[Nm]	*3	100	100	100	100	100	100	80
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.04						
Permitted Radial Load	[N]	*7	580	630	680	700	760	790	820
Permitted Axial Load	[N]	*8	650	720	750	750	750	750	750
Maximum Radial Load	[N]	*9	1500						
Maximum Axial Load	[N]	*10	750						
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.059	0.055	0.054	0.056	0.053	0.049	0.530
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.140	0.140	0.130	0.140	0.130	0.130	0.130
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.360	0.350	0.350	0.360	0.350	0.340	0.350
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	3						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	≤ 66						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	1.6						

VRT-o64 – 2-Stage Specifications

Frame Size	064							
Stage	2-Stage							
Ratio	Unit	Note	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000					
Maximum Input Speed	[rpm]	*5	6000					
No Load Running Torque	[Nm]	*6	0.04					
Permitted Radial Load	[N]	*7	850	910	950	1000	1000	1100
Permitted Axial Load	[N]	*8	750	750	750	750	750	750
Maximum Radial Load	[N]	*9	1500					
Maximum Axial Load	[N]	*10	750					
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.049	0.049	0.049	0.049	0.049	0.049
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.130	0.130	0.130	0.130	0.130	0.130
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.340	0.340	0.340	0.340	0.340	0.340
Efficiency	[%]	*11	90					
Torsional Rigidity	[Nm/arc/min]	*12	3					
Maximum Torsional Backlash	[arc/min]	--	≤ 3					
Noise Level	[dB]	*13	≤ 66					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0 - 40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	1.6					

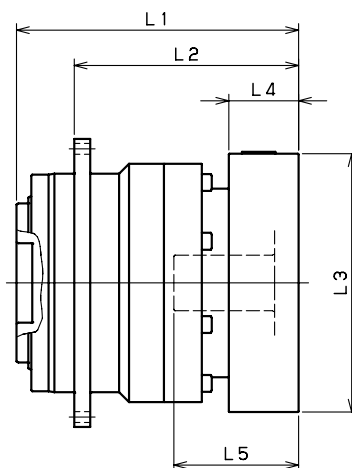
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRT o64
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

Input shaft bore $\leq \phi 8$



*2) Bushing will be inserted to adapt to motor shaft

VRT-o64 – 1-Stage Adapter Dimensions



Model Number	**: Adapter Code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRT-064-□-□-8** (Input shaft bore ≤ φ8)	AA-AC-AD-AF-AG-AL-AM-AN-AQ	79	63.5	59.5	□52	15.5	32
	AB-AE-AH-AJ-AK	84	63.5	64.5	□52	20.5	37
	BA-BB-BD-BE-BG-BH-BJ	79	63.5	59.5	□60	15.5	32
	BC-BF	84	63.5	64.5	□60	20.5	37
	CA	84	63.5	64.5	□70	20.5	37
VRT-064-□-□-14** (Input shaft bore ≤ φ14)	BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP	82	65.5	62.5	□65	16.5	35
	BC-BH-BM-BN	87	65.5	67.5	□65	21.5	40
	BL	92	65.5	72.5	□65	26.5	45
	CA-CC	82	65.5	62.5	□70	16.5	35
	CB	87	65.5	67.5	□70	21.5	40
	DA-DB-DC-DD-DF-DH-DJ	82	65.5	62.5	□80	16.5	35
	DE-DL	87	65.5	67.5	□80	21.5	40
	DG-DK	92	65.5	72.5	□80	26.5	45
	EA-EB-EC-EF-EG-EK-EL	82	65.5	62.5	□90	16.5	35
	EJ-EM	87	65.5	67.5	□90	21.5	40
	ED-EE-EH	92	65.5	72.5	□90	26.5	45
	FA	82	65.5	62.5	□100	16.5	35
	FB	82	65.5	62.5	□115	16.5	35
VRT-064-□-□-19** (Input shaft bore ≤ φ19)	DA-DB-DC	97	72	77.5	□80	25	50
	DD	107	72	87.5	□80	35	60
	DE	102	72	82.5	□80	30	55
	EA	102	72	82.5	□90	30	55
	EB-ED	97	72	77.5	□90	25	50
	EC	107	72	87.5	□90	35	60
	FA	97	72	77.5	□100	25	50
	FB	107	72	87.5	□100	35	60

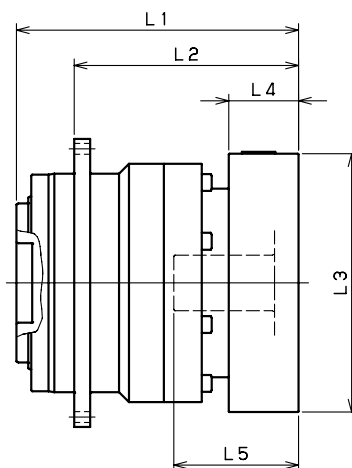
*1) Single reduction : 1/4 - 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-o64 – 2-Stage Adapter Dimensions



Model Number	**: Adapter Code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRT-064-□-□-8** (Input shaft bore ≤ φ8)	AA•AC•AD•AF•AG•AL•AM•AN•AQ	98	82.5	78.5	□52	15.5	32
	AB•AE•AH•AJ•AK	103	82.5	83.5	□52	20.5	37
	BA•BB•BD•BE•BG•BH•BJ	98	82.5	78.5	□60	15.5	32
	BC•BF	103	82.5	83.5	□60	20.5	37
	CA	103	82.5	83.5	□70	20.5	37
VRT-064-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	103	86.5	83.5	□65	16.5	35
	BC•BH•BM•BN	108	86.5	88.5	□65	21.5	40
	BL	113	86.5	93.5	□65	26.5	45
	CA•CC	103	86.5	83.5	□70	16.5	35
	CB	108	86.5	88.5	□70	21.5	40
	DA•DB•DC•DD•DF•DH•DJ	103	86.5	83.5	□80	16.5	35
	DE•DL	108	86.5	88.5	□80	21.5	40
	DG•DK	113	86.5	93.5	□80	26.5	45
	EA•EB•EC•EF•EG•EK•EL	103	86.5	83.5	□90	16.5	35
	EJ•EM	108	86.5	88.5	□90	21.5	40
	ED•EE•EH	113	86.5	93.5	□90	26.5	45
	FA	103	86.5	83.5	□100	16.5	35
	FB	103	86.5	83.5	□115	16.5	35
VRT-064-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	118	93	98.5	□80	25	50
	DD	128	93	108.5	□80	35	60
	DE	123	93	103.5	□80	30	55
	EA	123	93	103.5	□90	30	55
	EB•ED	118	93	98.5	□90	25	50
	EC	128	93	108.5	□90	35	60
	FA	118	93	98.5	□100	25	50
	FB	128	93	108.5	□100	35	60

*1) Double reduction : 1/16 - 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-090 – 1-Stage Specifications

Frame Size	090								
Stage	1-Stage								
Ratio	Unit	Note	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	75	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	125	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	250	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.17						
Permitted Radial Load	[N]	*7	720	780	830	870	910	950	980
Permitted Axial Load	[N]	*8	620	680	740	790	830	880	920
Maximum Radial Load	[N]	*9	3300						
Maximum Axial Load	[N]	*10	1700						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	-	-	-	-	-	-	-
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.770	0.580	0.480	0.410	0.370	0.350	0.330
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.200	1.000	0.940	0.880	0.840	0.810	0.800
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.900	2.900	2.800	2.800	2.800	2.800	2.800
Efficiency	[%]	*11	95						
Torsional Rigidity	[Nm/arc/min]	*12	10						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	≤ 67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	3.6						

VRT-090 – 2-Stage Specifications

Frame Size	090							
Stage	2-Stage							
Ratio	Unit	Note	16	20	25	28	35	40
Nominal Output Torque	[Nm]	*1	75	75	75	75	75	75
Maximum Acceleration Torque	[Nm]	*2	125	125	125	125	125	125
Emergency Stop Torque	[Nm]	*3	250	250	250	250	250	250
Nominal Input Speed	[rpm]	*4	3000					
Maximum Input Speed	[rpm]	*5	6000					
No Load Running Torque	[Nm]	*6	0.05					
Permitted Radial Load	[N]	*7	1200	1200	1300	1400	1500	1600
Permitted Axial Load	[N]	*8	1100	1200	1400	1400	1600	1700
Maximum Radial Load	[N]	*9	3300					
Maximum Axial Load	[N]	*10	1700					
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.160	0.140	0.130	0.140	0.130	0.100
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.310	0.290	0.280	0.300	0.280	0.250
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.750	0.730	0.720	0.730	0.720	0.700
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.800	2.700	2.700	2.800	2.700	2.600
Efficiency	[%]	*11	90					
Torsional Rigidity	[Nm/arc/min]	*12	10					
Maximum Torsional Backlash	[arc/min]	--	≤ 3					
Noise Level	[dB]	*13	≤ 67					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0 - 40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	4					

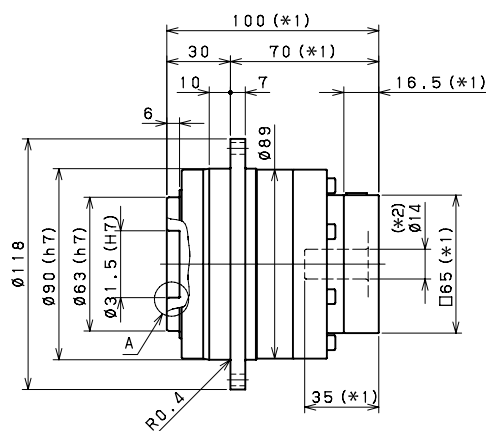
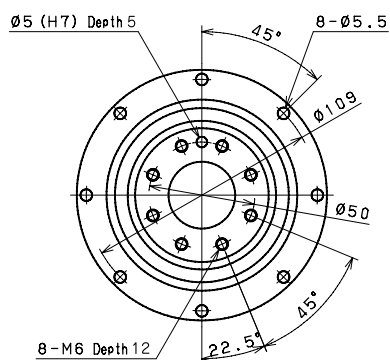
VRT-090 – 2-Stage Specifications

Frame Size	090								
Stage	2-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.05						
Permitted Radial Load	[N]	*7	1600	1700	1800	1900	2000	2000	2100
Permitted Axial Load	[N]	*8	1700	1700	1700	1700	1700	1700	1700
Maximum Radial Load	[N]	*9	3300						
Maximum Axial Load	[N]	*10	1700						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.120	0.100	0.099	0.098	0.098	0.098	0.098
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.270	0.250	0.250	0.250	0.250	0.250	0.250
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.710	0.700	0.700	0.690	0.690	0.690	0.690
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.700	2.600	2.600	2.600	2.600	2.600	2.600
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc/min]	*12	10						
Maximum Torsional Backlash	[arc/min]	--	≤ 3						
Noise Level	[dB]	*13	≤ 67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	4						

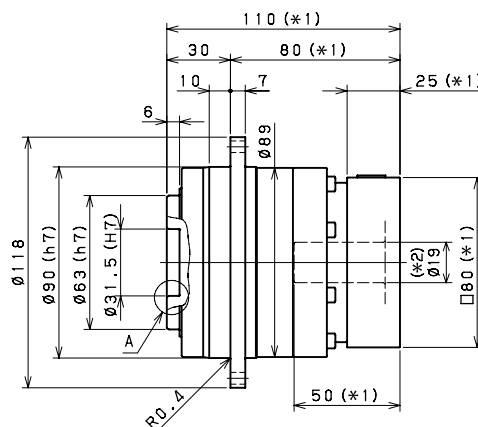
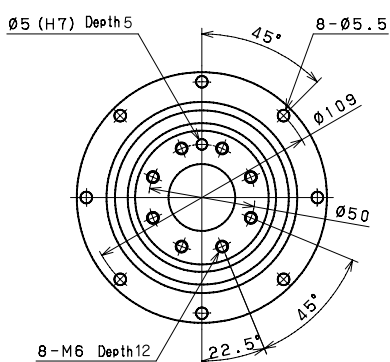
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRT 090
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-090 – 1-Stage Dimensions

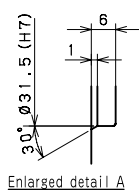
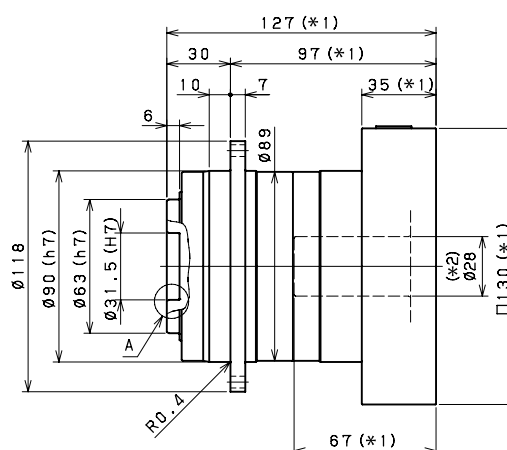
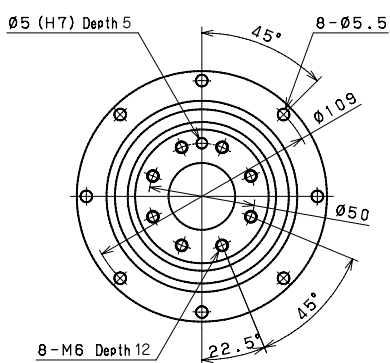
Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$

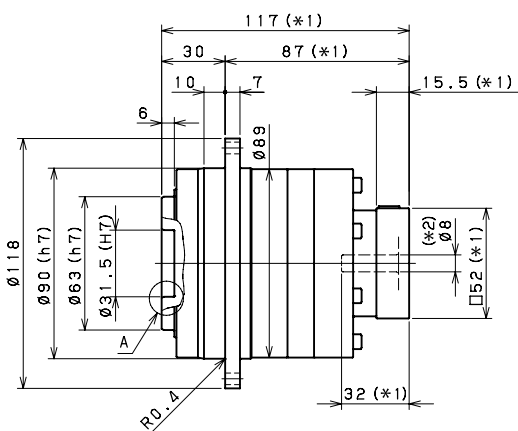
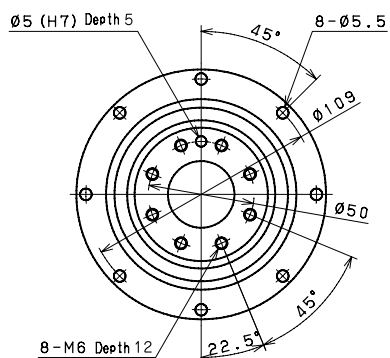


*1) Length will vary depending on motor

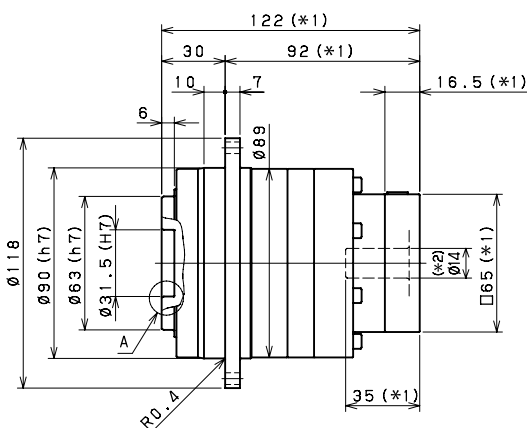
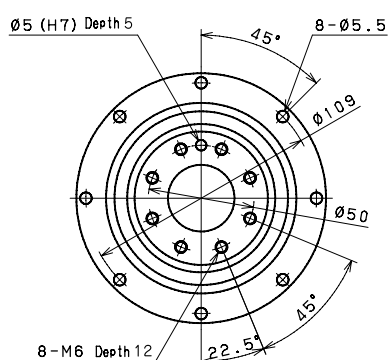
*2) Bushing will be inserted to adapt to motor shaft

VRT-090 – 2-Stage Dimensions

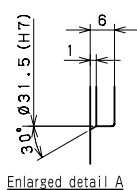
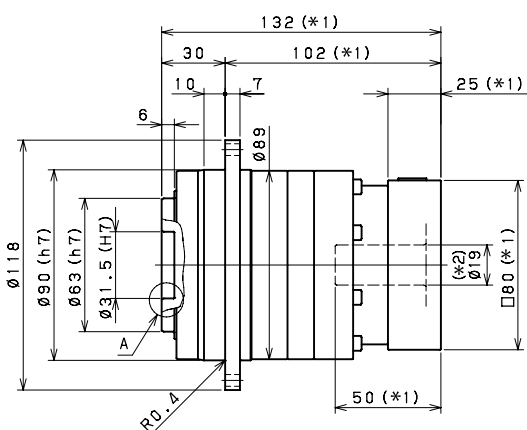
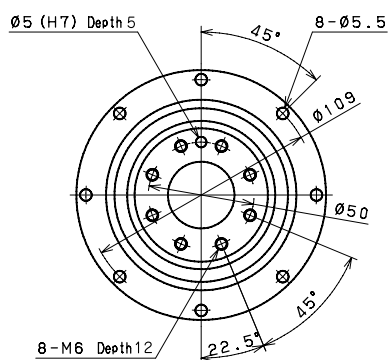
Input shaft bore $\leq \phi 8$



Input shaft bore $\leq \phi 14$



Input shaft bore $\leq \phi 19$

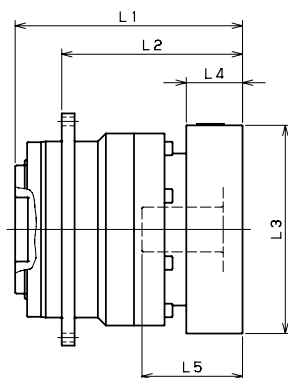


Enlarged detail A

*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRT-090 – 1-Stage Adapter Dimensions



Model Number	**: Adapter Code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRT-090-□-□-8** (Input shaft bore ≤ φ8)	AA-AC-AD-AF-AG-AL-AM-AN-AQ	--	--	--	--	--	--
	AB-AE-AH-AJ-AK	--	--	--	--	--	--
	BA-BB-BD-BE-BG-BH-BJ	--	--	--	--	--	--
	CA	--	--	--	--	--	--
VRT-090-□-□-14** (Input shaft bore ≤ φ14)	BA-BB-BD-BE-BF-BG-BH-BJ-BK-BP	100	83.5	70	□65	16.5	35
	BC-BH-BM-BN	105	83.5	75	□65	21.5	40
	CA-CC	100	83.5	70	□70	16.5	35
	DA-DB-DC-DD-DF-DH-DJ	100	83.5	70	□80	16.5	35
	EA-EB-EC-EF-EG-EK-EL	100	83.5	70	□90	16.5	35
	FA	100	83.5	70	□100	16.5	35
	FB	110	83.5	80	□100	26.5	45
	JA	115	83.5	85	□150	31.5	50
VRT-090-□-□-19** (Input shaft bore ≤ φ19)	DA-DB-DC	110	85	80	□80	25	50
	EB-ED	110	85	80	□90	25	50
	FA	110	85	80	□100	25	50
	FB	120	85	90	□100	35	60
	GA-GC-GH	115	85	85	□115	30	55
	GB-GD-GJ	110	85	80	□115	25	50
	GE-GF	120	85	90	□115	35	60
	HA	110	85	80	□130	25	50
	HB	125	85	95	□130	40	65
	HC-HD-HE	115	85	85	□130	30	55
	JA	120	85	90	□150	35	60
	JB	125	85	95	□150	40	65
VRT-090-□-□-28** (Input shaft bore ≤ φ28)	FA-FB-FC	127	92	97	□100	35	67
	FD-FE	122	92	92	□100	30	62
	GA-GB-GC-GD-GE-GF-GG-GH	127	92	97	□115	35	67
	HA-HC-HD	127	92	97	□130	35	67
	HB	137	92	107	□130	45	77
	HE	142	92	112	□130	50	82
	HF	122	92	92	□130	30	62
	JA-JB-JC-JF	127	92	97	□150	35	67
	JD	147	92	117	□150	55	87
	JE	137	92	107	□150	45	77

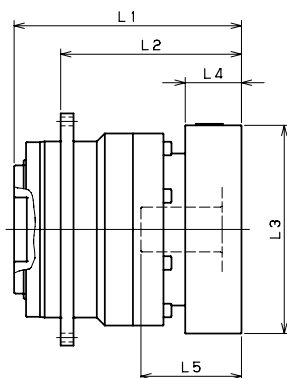
*1) Single reduction : 1/3 ~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-090 – 2-Stage Adapter Dimensions



Model Number	**: Adapter Code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRT-090-□-□-8** (Input shaft bore ≤ φ8)	AA•AC•AD•AF•AG•AL•AM•AN•AQ	117	101.5	87	□52	15.5	32
	AB•AE•AH•AJ•AK	122	101.5	92	□52	20.5	37
	BA•BB•BD•BE•BG•BH•BJ	117	101.5	87	□60	15.5	32
	CA	122	101.5	92	□70	20.5	37
VRT-090-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	122	105.5	92	□65	16.5	35
	BC•BH•BM•BN	127	105.5	97	□65	21.5	40
	CA•CC	122	105.5	92	□70	16.5	35
	DA•DB•DC•DD•DF•DH•DJ	122	105.5	92	□80	16.5	35
	EA•EB•EC•EF•EG•EK•EL	122	105.5	92	□90	16.5	35
	FA	122	105.5	92	□100	16.5	35
	FB	132	105.5	102	□100	26.5	45
	JA	137	105.5	107	□150	31.5	50
VRT-090-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	132	107	102	□80	25	50
	EB•ED	132	107	102	□90	25	50
	FA	132	107	102	□100	25	50
	FB	142	107	112	□100	35	60
	GA•GC•GH	137	107	107	□115	30	55
	GB•GD•GJ	132	107	102	□115	25	50
	GE•GF	142	107	112	□115	35	60
	HA	132	107	102	□130	25	50
	HB	147	107	117	□130	40	65
	HC•HD•HE	137	107	107	□130	30	55
	JA	142	107	112	□150	35	60
	JB	147	107	117	□150	40	65
VRT-090-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	151	116	121	□100	35	67
	FD•FE	146	116	116	□100	30	62
	GA•GB•GC•GD•GE•GF•GG•GH	151	116	121	□115	35	67
	HA•HC•HD	151	116	121	□130	35	67
	HB	161	116	131	□130	45	77
	HE	166	116	136	□130	50	82
	HF	146	116	116	□130	30	62
	JA•JB•JC•JF	151	116	121	□150	35	67
	JD	171	116	141	□150	55	87
	JE	161	116	131	□150	45	77

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-110 – 1-Stage Specifications

Frame Size	110					
Stage	1-Stage					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	120	180	180	120
Maximum Output Torque	[Nm]	*2	330	330	330	225
Emergency Stop Torque	[Nm]	*3	625	625	625	500
Nominal Input Speed	[rpm]	*4	3000			
Maximum Input Speed	[rpm]	*5	6000			
No Load Running Torque	[Nm]	*6	0.77			
Permitted Radial Load	[N]	*7	4700	5000	5600	6200
Permitted Axial Load	[N]	*8	3200	3400	3800	4200
Maximum Radial Load	[N]	*9	12000			
Maximum Axial Load	[N]	*10	8800			
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	--	--	--	--
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	3.100	2.300	1.500	1.100
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	5.100	4.300	3.500	3.100
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	13.000	12.000	11.000	11.000
Efficiency	[%]	*11	95			
Torsional Rigidity	[Nm/arc/min]	*12	31			
Maximum Torsional Backlash	[arc/min]	--	≤ 3			
Noise Level	[dB]	*13	≤ 71			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	7.8			

VRT-110 – 2-Stage Specifications

Frame Size	110					
Stage	2-Stage					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	180	180	180	180
Maximum Output Torque	[Nm]	*2	330	330	330	330
Emergency Stop Torque	[Nm]	*3	625	625	625	625
Nominal Input Speed	[rpm]	*4	3000			
Maximum Input Speed	[rpm]	*5	6000			
No Load Running Torque	[Nm]	*6	0.17			
Permitted Radial Load	[N]	*7	7100	7600	8200	8500
Permitted Axial Load	[N]	*8	4800	5200	5500	5700
Maximum Radial Load	[N]	*9	12000			
Maximum Axial Load	[N]	*10	8800			
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	1.000	0.800	0.700	0.900
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	1.500	1.200	1.200	1.400
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	3.400	3.100	3.100	3.300
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	11.000	11.000	11.000	11.000
Efficiency	[%]	*11	90			
Torsional Rigidity	[Nm/arc/min]	*12	31			
Maximum Torsional Backlash	[arc/min]	--	≤ 3			
Noise Level	[dB]	*13	≤ 71			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	8.6			

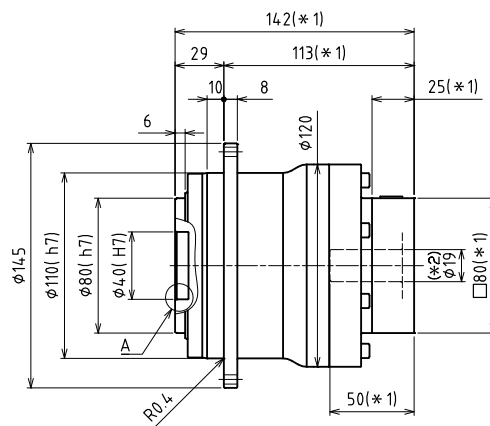
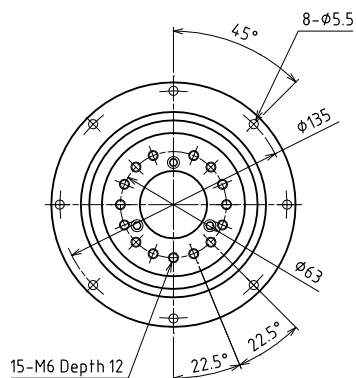
VRT-110 – 2-Stage Specifications

Frame Size	110						
Stage	2-Stage						
Ratio	Unit	Note	35	40	50	70	100
Nominal Output Torque	[Nm]	*1	180	180	180	180	120
Maximum Output Torque	[Nm]	*2	330	330	330	330	225
Emergency Stop Torque	[Nm]	*3	625	625	625	625	500
Nominal Input Speed	[rpm]	*4	3000				
Maximum Input Speed	[rpm]	*5	6000				
No Load Running Torque	[Nm]	*6	0.17				
Permitted Radial Load	[N]	*7	9000	9400	10000	11000	12000
Permitted Axial Load	[N]	*8	6100	6400	6800	7500	8400
Maximum Radial Load	[N]	*9	12000				
Maximum Axial Load	[N]	*10	8800				
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.700	0.400	0.400	0.400	0.400
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.100	0.800	0.800	0.800	0.800
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.100	2.800	2.800	2.700	2.700
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	11.000	10.000	10.000	10.000	10.000
Efficiency	[%]	*11	--				
Torsional Rigidity	[Nm/arc/min]	*12	31				
Maximum Torsional Backlash	[arc/min]	--	≤ 3				
Noise Level	[dB]	*13	≤ 71				
Protection Class	--	*14	IP54 (IP65)				
Ambient Temperature	[°C]	--	0 - 40				
Permitted Housing Temperature	[°C]	--	90				
Weight	[kg]	*15	8.6				

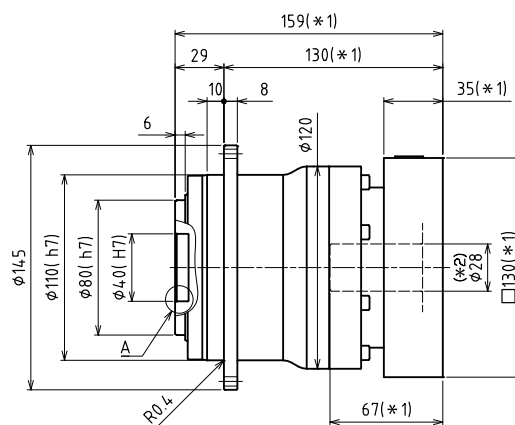
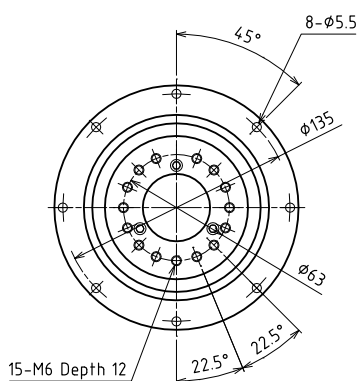
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 3,000 rpm for VRT 110
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-110 – 1-Stage Dimensions

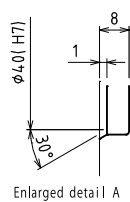
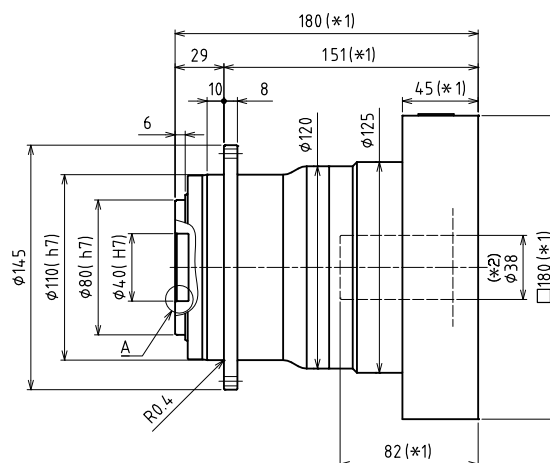
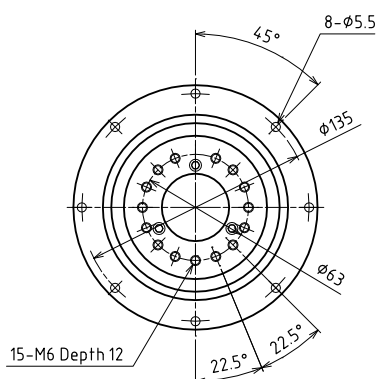
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



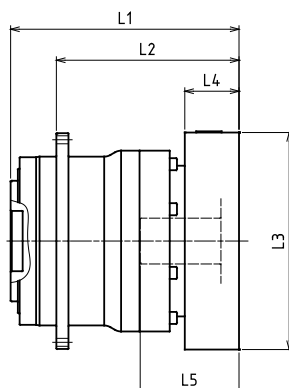
Input shaft bore $\leq \phi 38$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRT-110 – 1-Stage Adapter Dimensions



Model Number	**: Adapter Code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRT-110-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	--	--	--	--	--	--
	BC•BH•BM•BN	--	--	--	--	--	--
	CA•CC	--	--	--	--	--	--
	DA•DB•DC•DD•DF•DH•DJ	--	--	--	--	--	--
	EA•EB•EC•EF•EG•EK•EL	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	JA	--	--	--	--	--	--
VRT-110-□-□-19** (Input shaft bore ≤ φ19)	DA • DB • DC	124.5	99.5	95.5	□80	25	50
	EB	124.5	99.5	95.5	□90	25	50
	FA	124.5	99.5	95.5	□100	25	50
	FB	134.5	99.5	105.5	□100	35	60
	GB • GD	124.5	99.5	95.5	□115	25	50
	HA	134.5	99.5	105.5	□115	35	60
	--	124.5	99.5	95.5	□130	25	50
	--	139.5	99.5	110.5	□130	40	65
	--	129.5	99.5	100.5	□130	30	55
	HB	134.5	99.5	105.5	□150	35	60
VRT-110-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	141.5	106.5	112.5	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	141.5	106.5	112.5	□115	35	67
	HA•HC•HD	141.5	106.5	112.5	□130	35	67
	HB	151.5	106.5	122.5	□130	45	77
	HF	136.5	106.5	107.5	□130	30	62
	JA•JB•JC•JF	141.5	106.5	112.5	□150	35	67
	JD	161.5	106.5	132.5	□150	55	87
	JE	151.5	106.5	122.5	□150	45	77
	KA•KB•KE	141.5	106.5	112.5	□180	35	67
	KD	151.5	106.5	122.5	□180	45	77
VRT-110-□-□-38** (Input shaft bore ≤ φ38)	HA	162.5	117.5	133.5	□130	45	82
	HB•HE	157.5	117.5	128.5	□130	40	77
	JA	162.5	117.5	133.5	□150	45	82
	KA•KB•KC	162.5	117.5	133.5	□180	45	82
	KD	197.5	117.5	168.5	□180	80	117
	KE	177.5	117.5	148.5	□180	60	97

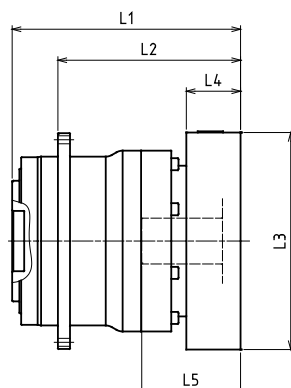
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-110 – 2-Stage Adapter Dimensions



Model Number	**: Adapter Code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRT-110-□-□-14** (Input shaft bore ≤ φ14)	BA•BB•BD•BE•BF•BG•BH•BJ•BK•BP	142	125.5	113	□65	16.5	35
	BC•BH•BM•BN	147	125.5	118	□65	21.5	40
	CA•CC	142	125.5	113	□70	16.5	35
	DA•DB•DC•DD•DF•DH•DJ	142	125.5	113	□80	16.5	35
	EA•EB•EC•EF•EG•EK•EL	142	125.5	113	□90	16.5	35
	FA	142	125.5	113	□100	16.5	35
	FB	152	125.5	123	□100	26.5	45
	JA	157	125.5	128	□150	31.5	50
VRT-110-□-□-19** (Input shaft bore ≤ φ19)	DA • DB • DC	152	127	123	□80	25	50
	EB	152	127	123	□90	25	50
	FA	152	127	123	□100	25	50
	FB	162	127	133	□100	35	60
	GB • GD	152	127	123	□115	25	50
	HA	162	127	133	□115	35	60
	--	152	127	123	□130	25	50
	--	167	127	138	□130	40	65
	--	157	127	128	□130	30	55
	HB	162	127	133	□150	35	60
VRT-110-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	169	134	140	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	169	134	140	□115	35	67
	HA•HC•HD	169	134	140	□130	35	67
	HB	179	134	150	□130	45	77
	HF	164	134	135	□130	30	62
	JA•JB•JC•JF	169	134	140	□150	35	67
	JD	189	134	160	□150	55	87
	JE	179	134	150	□150	45	77
	KA•KB•KE	169	134	140	□180	35	67
	KD	179	134	150	□180	45	77
VRT-110-□-□-38** (Input shaft bore ≤ φ38)	HA	186.5	141.5	157.5	□130	45	82
	HB•HE	181.5	141.5	152.5	□130	40	77
	JA	186.5	141.5	157.5	□150	45	82
	KA•KB•KC	186.5	141.5	157.5	□180	45	82
	KD	221.5	141.5	192.5	□180	80	117
	KE	201.5	141.5	172.5	□180	60	97

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-140 – 1-Stage Specifications

Frame Size	140					
Stage	1-Stage					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	240	360	360	240
Maximum Output Torque	[Nm]	*2	700	700	700	470
Emergency Stop Torque	[Nm]	*3	1250	1250	1250	1000
Nominal Input Speed	[rpm]	*4	2000			
Maximum Input Speed	[rpm]	*5	4000			
No Load Running Torque	[Nm]	*13	1.00			
Permitted Radial Load	[N]	*6	8000	8500	9400	10000
Permitted Axial Load	[N]	*7	5600	6000	6700	7400
Maximum Radial Load	[N]	*8	19000			
Maximum Axial Load	[N]	*9	14000			
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	*10	--	--	--	--
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	11.000	8.400	5.400	4.100
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	19.000	16.000	13.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	41.000	38.000	35.000	34.000
Efficiency	[%]	--	95			
Torsional Rigidity	[Nm/arc/min]	*11	60			
Maximum Torsional Backlash	[arc/min]	*12	≤ 3			
Noise Level	[dB]	--	≤ 67			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	15			

VRT-140 – 2-Stage Specifications

Frame Size	140					
Stage	2-Stage					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	360	360	360	360
Maximum Output Torque	[Nm]	*2	700	700	700	700
Emergency Stop Torque	[Nm]	*3	1250	1250	1250	1250
Nominal Input Speed	[rpm]	*4	2000			
Maximum Input Speed	[rpm]	*5	4000			
No Load Running Torque	[Nm]	*13	0.54			
Permitted Radial Load	[N]	*6	12000	13000	14000	14000
Permitted Axial Load	[N]	*7	8500	9100	9800	10000
Maximum Radial Load	[N]	*8	19000			
Maximum Axial Load	[N]	*9	14000			
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	*10	3.800	2.600	2.500	3.400
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	5.800	4.600	4.500	5.400
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	13.000	12.000	12.000	13.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	35.000	34.000	34.000	35.000
Efficiency	[%]	--	90			
Torsional Rigidity	[Nm/arc/min]	*11	60			
Maximum Torsional Backlash	[arc/min]	*12	≤ 3			
Noise Level	[dB]	--	≤ 67			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	17			

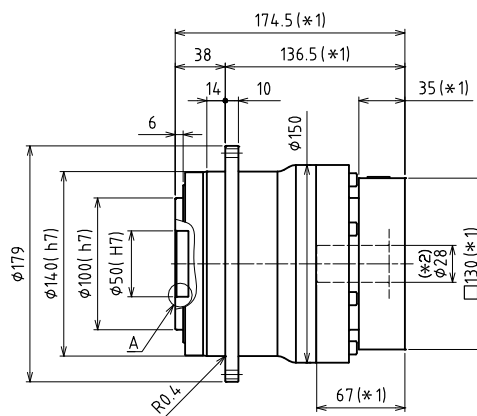
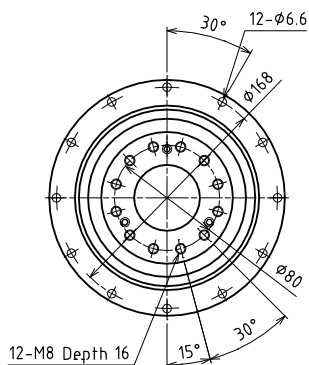
VRT-140 – 2-Stage Specifications

Frame Size	140						
Stage	2-Stage						
Ratio	Unit	Note	35	40	50	70	100
Nominal Output Torque	[Nm]	*1	360	360	360	360	240
Maximum Output Torque	[Nm]	*2	700	700	700	700	470
Emergency Stop Torque	[Nm]	*3	1250	1250	1250	1250	1000
Nominal Input Speed	[rpm]	*4	2000				
Maximum Input Speed	[rpm]	*5	4000				
No Load Running Torque	[Nm]	*13	0.54				
Permitted Radial Load	[N]	*6	15000	16000	17000	19000	19000
Permitted Axial Load	[N]	*7	11000	11000	12000	13000	14000
Maximum Radial Load	[N]	*8	19000				
Maximum Axial Load	[N]	*9	14000				
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	*10	2.400	1.200	1.100	1.100	1.100
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.400	3.100	3.100	3.100	3.100
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12.000	11.000	11.000	11.000	11.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	34.000	33.000	33.000	33.000	33.000
Efficiency	[%]	--	90				
Torsional Rigidity	[Nm/arc/min]	*11	60				
Maximum Torsional Backlash	[arc/min]	*12	≤ 3				
Noise Level	[dB]	--	≤ 67				
Protection Class	--	*14	IP54 (IP65)				
Ambient Temperature	[°C]	--	0 - 40				
Permitted Housing Temperature	[°C]	--	90				
Weight	[kg]	*15	17				

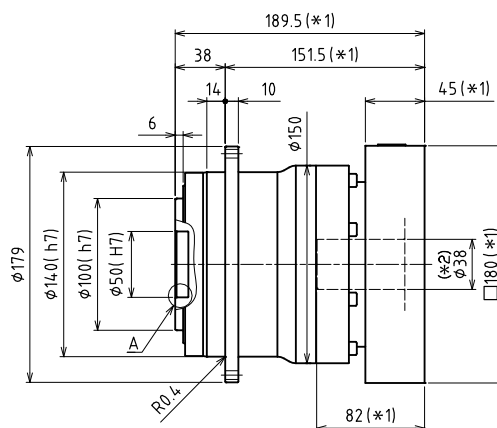
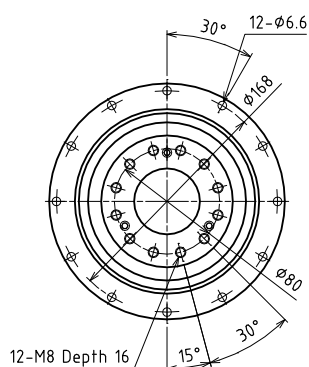
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRT140
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-140 – 1-Stage Dimensions

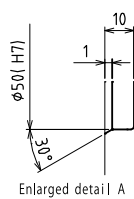
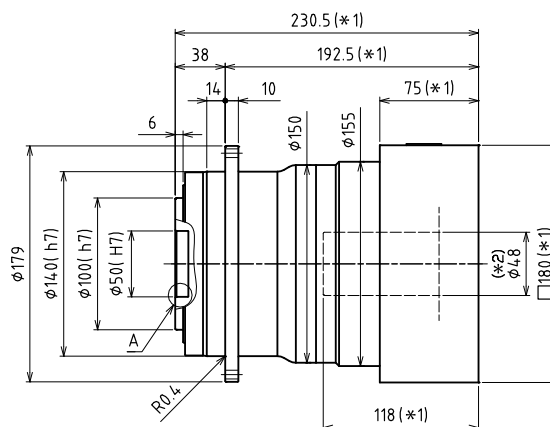
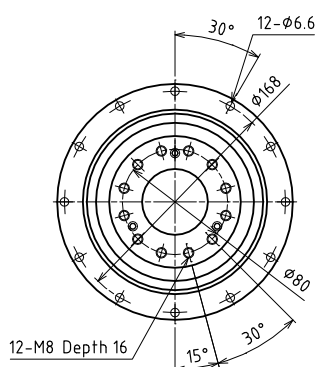
Input shaft bore $\leq \phi 28$



Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$

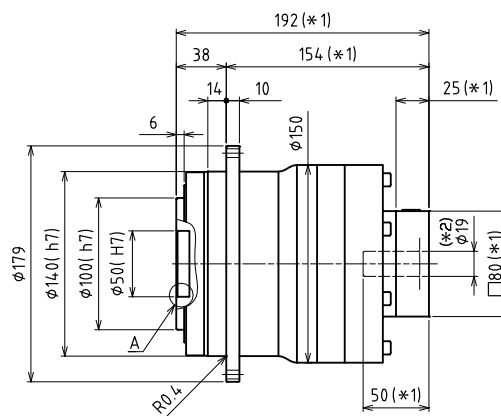
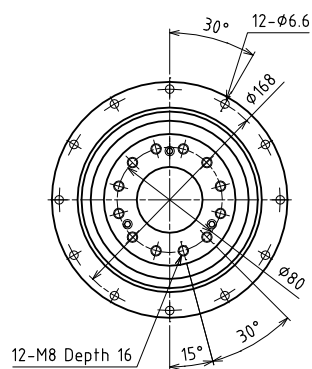


*1) Length will vary depending on motor.

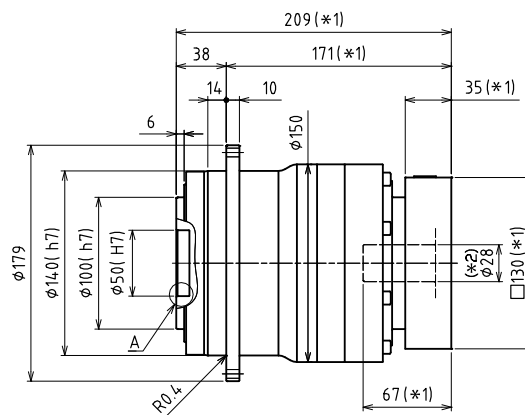
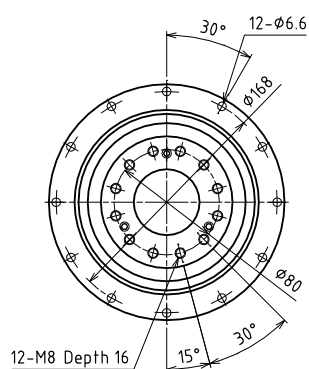
*2) Bushing will be inserted to adapt to motor shaft

VRT-140 – 2-Stage Dimensions

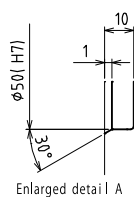
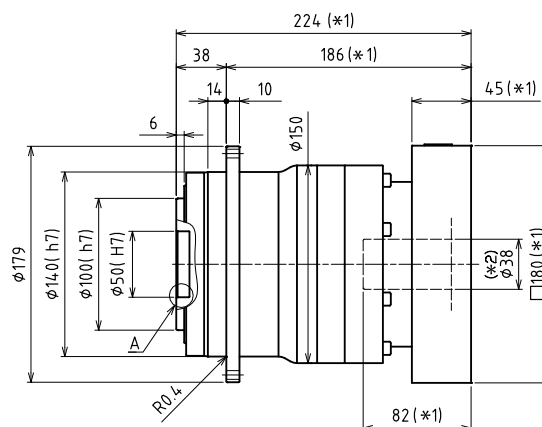
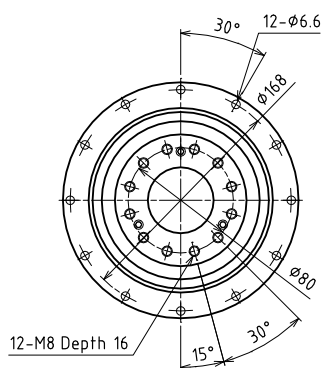
Input shaft bore $\leq \phi 19$



Input shaft bore $\leq \phi 28$



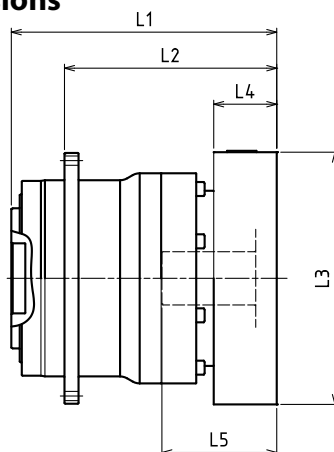
Input shaft bore $\leq \phi 38$



*1) Length will vary depending on motor.

*2) Bushing will be inserted to adapt to motor shaft

VRT-140 – 1-Stage Adapter Dimensions



Model Number	**: Adapter Code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRT-140-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	--	--	--	--	--	--
	EB•ED	--	--	--	--	--	--
	FA	--	--	--	--	--	--
	FB	--	--	--	--	--	--
	GB•GD•GJ	--	--	--	--	--	--
	HA	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	JA	--	--	--	--	--	--
VRT-140-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	154	119	116	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	154	119	116	□115	35	67
	HA•HC•HD	154	119	116	□130	35	67
	HB	164	119	126	□130	45	77
	HF	149	119	111	□130	30	62
	JA•JB•JC•JF	154	119	116	□150	35	67
	KA•KB•KE	154	119	116	□180	35	67
	LA	154	119	116	□200	35	67
	LB	164	119	126	□200	45	77
	MA	154	119	116	□220	35	67
	MB	164	119	126	□220	45	77
	HA	169	124	131	□130	45	82
VRT-140-□-□-38** (Input shaft bore ≤ φ38)	HB•HE	164	124	126	□130	40	77
	JA	169	124	131	□150	45	82
	KA•KB•KC	169	124	131	□180	45	82
	KD	204	124	166	□180	80	117
	KE	184	124	146	□180	60	97
	LB	179	124	141	□200	55	92
	MA•MB	169	124	131	□220	45	82
	MC	184	124	146	□220	60	97
	MD	179	124	141	□220	55	92
	KA	210	135	172	□180	75	118
	KB•KC	190	135	152	□180	55	98
	LA	190	135	152	□200	55	98
VRT-140-□-□-48** (Input shaft bore ≤ φ48)	MA	190	135	152	□220	55	98
	MB	210	135	172	□220	75	118

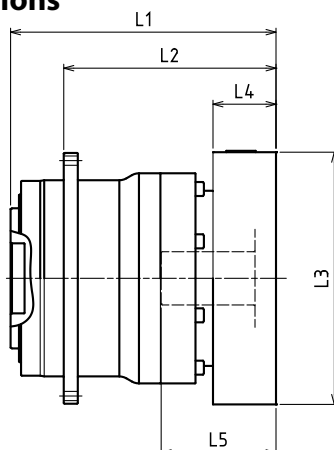
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-140 – 2-Stage Adapter Dimensions



Model Number	**: Adapter Code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRT-140-□-□-19** (Input shaft bore ≤ φ19)	DA•DB•DC	171.5	146.5	133.5	□80	25	50
	EB•ED	171.5	146.5	133.5	□90	25	50
	FA	171.5	146.5	133.5	□100	25	50
	FB	181.5	146.5	143.5	□100	35	60
	GB•GD•GJ	171.5	146.5	133.5	□115	25	50
	HA	171.5	146.5	133.5	□130	25	50
	HB	186.5	146.5	148.5	□130	40	65
	JA	181.5	146.5	143.5	□150	35	60
VRT-140-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	188.5	153.5	150.5	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	188.5	153.5	150.5	□115	35	67
	HA•HC•HD	188.5	153.5	150.5	□130	35	67
	HB	198.5	153.5	160.5	□130	45	77
	HF	183.5	153.5	145.5	□130	30	62
	JA•JB•JC•JF	188.5	153.5	150.5	□150	35	67
	KA•KB•KE	188.5	153.5	150.5	□180	35	67
	LA	188.5	153.5	150.5	□200	35	67
	LB	198.5	153.5	160.5	□200	45	77
	MA	188.5	153.5	150.5	□220	35	67
	MB	198.5	153.5	160.5	□220	45	77
	HA	203.5	158.5	165.5	□130	45	82
VRT-140-□-□-38** (Input shaft bore ≤ φ38)	HB•HE	198.5	158.5	160.5	□130	40	77
	JA	203.5	158.5	165.5	□150	45	82
	KA•KB•KC	203.5	158.5	165.5	□180	45	82
	KD	238.5	158.5	200.5	□180	80	117
	KE	218.5	158.5	180.5	□180	60	97
	LB	213.5	158.5	175.5	□200	55	92
	MA•MB	203.5	158.5	165.5	□220	45	82
	MC	218.5	158.5	180.5	□220	60	97
	MD	213.5	158.5	175.5	□220	55	92
	KA	244.5	169.5	206.5	□180	75	118
VRT-140-□-□-48** (Input shaft bore ≤ φ48)	KB•KC	224.5	169.5	186.5	□180	55	98
	LA	224.5	169.5	186.5	□200	55	98
	MA	224.5	169.5	186.5	□220	55	98
	MB	244.5	169.5	206.5	□220	75	118

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-200 – 1-Stage Specifications

Frame Size	200					
Stage	1-Stage					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	750	750	750	500
Maximum Output Torque	[Nm]	*2	1400	1400	1400	970
Emergency Stop Torque	[Nm]	*3	2750	2750	2750	2200
Nominal Input Speed	[rpm]	*4	1500			
Maximum Input Speed	[rpm]	*5	3000			
No Load Running Torque	[Nm]	*13	1.9			
Permitted Radial Load	[N]	*6	18000	19000	21000	23000
Permitted Axial Load	[N]	*7	12000	13000	14000	16000
Maximum Radial Load	[N]	*8	40000			
Maximum Axial Load	[N]	*9	30000			
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	*10	--	--	--	--
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	54.000	39.000	25.000	18.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	76.000	61.000	47.000	40.000
Moment of Inertia ($\leq \emptyset 65$)	[kgcm ²]	--	140.000	120.000	110.000	100.000
Efficiency	[%]	--	95			
Torsional Rigidity	[Nm/arc/min]	*11	175			
Maximum Torsional Backlash	[arc/min]	*12	≤ 3			
Noise Level	[dB]	--	≤ 67			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	42			

VRT-200 – 2-Stage Specifications

Frame Size	200					
Stage	2-Stage					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	750	750	750	750
Maximum Output Torque	[Nm]	*2	1400	1400	1400	1400
Emergency Stop Torque	[Nm]	*3	2750	2750	2750	2750
Nominal Input Speed	[rpm]	*4	1500			
Maximum Input Speed	[rpm]	*5	3000			
No Load Running Torque	[Nm]	*13	1.3			
Permitted Radial Load	[N]	*6	27000	28000	30000	31000
Permitted Axial Load	[N]	*7	18000	19000	21000	21000
Maximum Radial Load	[N]	*8	40000			
Maximum Axial Load	[N]	*9	30000			
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	*10	13.000	9.400	8.800	11.000
Moment of Inertia ($\leq \emptyset 38$)	[kgcm ²]	--	21.000	17.000	16.000	19.000
Moment of Inertia ($\leq \emptyset 48$)	[kgcm ²]	--	43.000	39.000	38.000	41.000
Moment of Inertia ($\leq \emptyset 65$)	[kgcm ²]	--	--	--	--	--
Efficiency	[%]	--	90			
Torsional Rigidity	[Nm/arc/min]	*11	175			
Maximum Torsional Backlash	[arc/min]	*12	≤ 3			
Noise Level	[dB]	--	≤ 67			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	43			

VRT-200 – 2-Stage Specifications

Frame Size	200						
Stage	2-Stage						
Ratio	Unit	Note	35	40	50	70	100
Nominal Output Torque	[Nm]	*1	750	750	750	750	500
Maximum Output Torque	[Nm]	*2	1400	1400	1400	1400	970
Emergency Stop Torque	[Nm]	*3	2750	2750	2750	2750	2200
Nominal Input Speed	[rpm]	*4	1500				
Maximum Input Speed	[rpm]	*5	3000				
No Load Running Torque	[Nm]	*13	1.3				
Permitted Radial Load	[N]	*6	34000	35000	37000	40000	40000
Permitted Axial Load	[N]	*7	23000	24000	25000	28000	30000
Maximum Radial Load	[N]	*8	40000				
Maximum Axial Load	[N]	*9	30000				
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	*10	8.200	4.400	4.200	4.100	4.000
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	16.000	12.000	12.000	12.000	12.000
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	38.000	34.000	34.000	34.000	34.000
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--
Efficiency	[%]	--	90				
Torsional Rigidity	[Nm/arc/min]	*11	175				
Maximum Torsional Backlash	[arc/min]	*12	≤ 3				
Noise Level	[dB]	--	≤ 67				
Protection Class	--	*14	IP54 (IP65)				
Ambient Temperature	[°C]	--	0 - 40				
Permitted Housing Temperature	[°C]	--	90				
Weight	[kg]	*15	43				

*1) At nominal input speed, service life is 20,000 hours

*2) The maximum torque when starting or stopping operation

*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)

*4) The average input speed

*5) The maximum intermittent input speed

*6) This is the torque at no load applied on the input shaft. The input speed is 1,500 rpm for VRT 200

*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)

*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)

*9) The maximum radial load that the reducer can accept

*10) The maximum axial load that the reducer can accept

*11) The efficiency at the nominal torque rating

*12) This does not include the lost motion

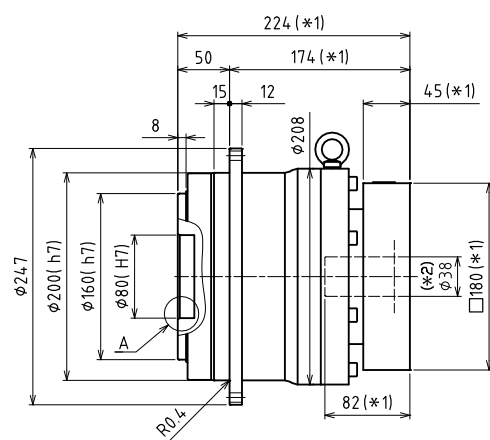
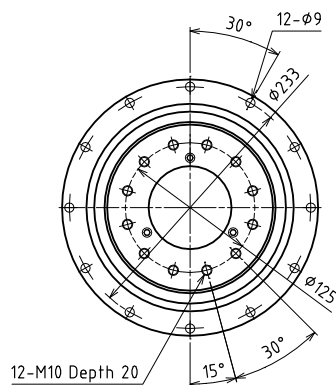
*13) Contact SIT S.P.A. for the testing conditions and environment

*14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

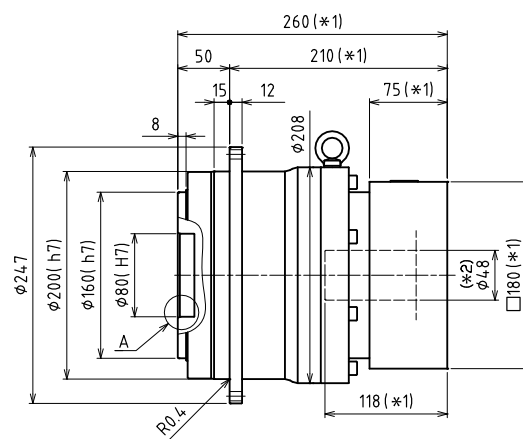
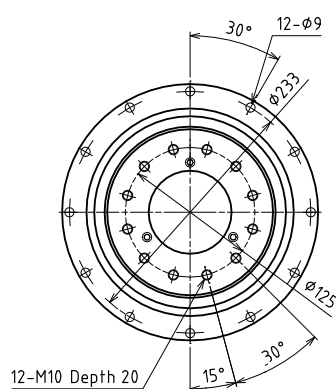
*15) The weight may vary slightly between models

VRT-200 – 1-Stage Dimensions

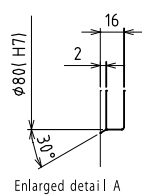
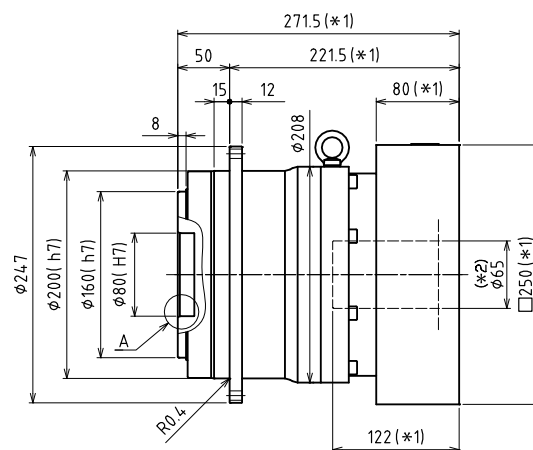
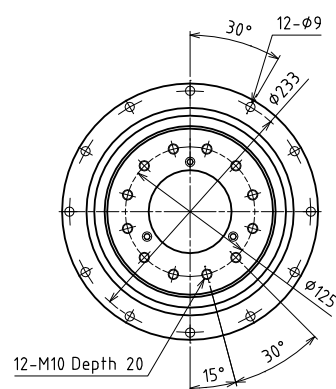
Input shaft bore $\leq \phi 38$



Input shaft bore $\leq \phi 48$



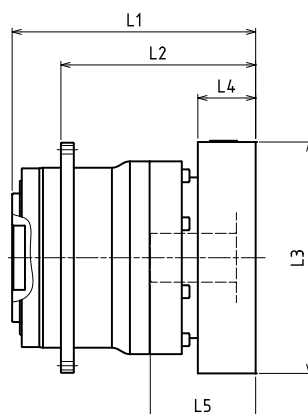
Input shaft bore $\leq \phi 65$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRT-200 – 1-Stage Adapter Dimensions



Model Number	**: Adapter Code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRT-200-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	--	--	--	--	--	--
	GA•GB•GC•GD•GE•GF•GG•GH	--	--	--	--	--	--
	HA•HC•HD	--	--	--	--	--	--
	HB	--	--	--	--	--	--
	HF	--	--	--	--	--	--
	JA•JB•JC•JF	--	--	--	--	--	--
	KA•KB•KE	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	LB	--	--	--	--	--	--
	MA	--	--	--	--	--	--
	MB	--	--	--	--	--	--
VRT-200-□-□-38** (Input shaft bore ≤ φ38)	HA	192	147	142	□130	45	82
	HB•HE	187	147	137	□130	40	77
	JA	192	147	142	□150	45	82
	KA•KB•KC	192	147	142	□180	45	82
	KD	227	147	177	□180	80	117
	KE	207	147	157	□180	60	97
	LB	202	147	152	□200	55	92
	MA•MB	192	147	142	□220	45	82
	MC	207	147	157	□220	60	97
	MD	202	147	152	□220	55	92
	NA	192	147	142	□250	45	82
VRT-200-□-□-48** (Input shaft bore ≤ φ48)	KA	228	153	178	□180	75	118
	KB•KC	208	153	158	□180	55	98
	LA	208	153	158	□200	55	98
	MA	208	153	158	□220	55	98
	MB	228	153	178	□220	75	118
	NA	228	153	178	□250	75	118
	PA	228	153	178	□280	75	118
VRT-200-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	239.5	159.5	189.5	□220	80	122
	NA•NC	239.5	159.5	189.5	□250	80	122
	NB•ND	269.5	159.5	219.5	□250	110	152
	PA	259.5	159.5	209.5	□280	100	142
	PB	269.5	159.5	219.5	□280	110	152

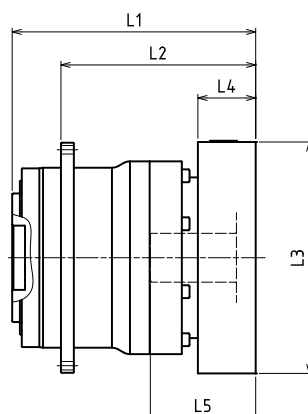
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-200 – 2-Stage Adapter Dimensions



Model Number	**: Adapter Code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRT-200-□-□-28** (Input shaft bore ≤ φ28)	FA•FB•FC	221.5	186.5	171.5	□100	35	67
	GA•GB•GC•GD•GE•GF•GG•GH	221.5	186.5	171.5	□115	35	67
	HA•HC•HD	221.5	186.5	171.5	□130	35	67
	HB	231.5	186.5	181.5	□130	45	77
	HF	216.5	186.5	166.5	□130	30	62
	JA•JB•JC•JF	221.5	186.5	171.5	□150	35	67
	KA•KB•KE	221.5	186.5	171.5	□180	35	67
	LA	221.5	186.5	171.5	□200	35	67
	LB	231.5	186.5	181.5	□200	45	77
	MA	221.5	186.5	171.5	□220	35	67
	MB	231.5	186.5	181.5	□220	45	77
	NA	236.5	191.5	186.5	□250	45	82
VRT-200-□-□-38** (Input shaft bore ≤ φ38)	HA	236.5	191.5	186.5	□130	45	82
	HB•HE	231.5	191.5	181.5	□130	40	77
	JA	236.5	191.5	186.5	□150	45	82
	KA•KB•KC	236.5	191.5	186.5	□180	45	82
	KD	271.5	191.5	221.5	□180	80	117
	KE	251.5	191.5	201.5	□180	60	97
	LB	246.5	191.5	196.5	□200	55	92
	MA•MB	236.5	191.5	186.5	□220	45	82
	MC	251.5	191.5	201.5	□220	60	97
	MD	246.5	191.5	196.5	□220	55	92
	NA	236.5	191.5	186.5	□250	45	82
	PA	272.5	197.5	222.5	□280	75	118
VRT-200-□-□-48** (Input shaft bore ≤ φ48)	KA	272.5	197.5	222.5	□180	75	118
	KB•KC	252.5	197.5	202.5	□180	55	98
	LA	252.5	197.5	202.5	□200	55	98
	MA	252.5	197.5	202.5	□220	55	98
	MB	272.5	197.5	222.5	□220	75	118
	NA	272.5	197.5	222.5	□250	75	118
	PA	272.5	197.5	222.5	□280	75	118
VRT-200-□-□-65** (Input shaft bore ≤ φ65)	MA•MB•MC•MD	--	--	--	--	--	--
	NA•NC	--	--	--	--	--	--
	NB•ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-255 – 1-Stage Specifications

Frame Size	255					
Stage	1-Stage					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	2400	2400	2400	1600
Maximum Output Torque	[Nm]	*2	3700	3700	3700	2600
Emergency Stop Torque	[Nm]	*3	8000	8000	8000	6000
Nominal Input Speed	[rpm]	*4	1000			
Maximum Input Speed	[rpm]	*5	2000			
No Load Running Torque	[Nm]	*13	2.5			
Permitted Radial Load	[N]	*6	31000	33000	36000	40000
Permitted Axial Load	[N]	*7	22000	24000	26000	29000
Maximum Radial Load	[N]	*8	64000			
Maximum Axial Load	[N]	*9	48000			
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	*10	--	--	--	--
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	200	170	130	110
Efficiency	[%]	--	95			
Torsional Rigidity	[Nm/arc/min]	*11	550			
Maximum Torsional Backlash	[arc/min]	*12	≤ 3			
Noise Level	[dB]	--	≤ 62			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	84			

VRT-255 – 2-Stage Specifications

Frame Size	255					
Stage	2-Stage					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	2400	2400	2400	2400
Maximum Output Torque	[Nm]	*2	3700	3700	3700	3700
Emergency Stop Torque	[Nm]	*3	8000	8000	8000	8000
Nominal Input Speed	[rpm]	*4	1000			
Maximum Input Speed	[rpm]	*5	2000			
No Load Running Torque	[Nm]	*13	1.0			
Permitted Radial Load	[N]	*6	46000	49000	53000	55000
Permitted Axial Load	[N]	*7	34000	36000	38000	40000
Maximum Radial Load	[N]	*8	64000			
Maximum Axial Load	[N]	*9	48000			
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	*10	64.0	53.0	51.0	59.0
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--
Efficiency	[%]	--	90			
Torsional Rigidity	[Nm/arc/min]	*11	550			
Maximum Torsional Backlash	[arc/min]	*12	≤ 3			
Noise Level	[dB]	--	≤ 62			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	89			

VRT-255 – 2-Stage Specifications

Frame Size	255						
Stage	2-Stage						
Ratio	Unit	Note	35	40	50	70	100
Nominal Output Torque	[Nm]	*1	2400	2400	2400	2400	1600
Maximum Output Torque	[Nm]	*2	3700	3700	3700	3700	1800
Emergency Stop Torque	[Nm]	*3	8000	8000	8000	8000	6000
Nominal Input Speed	[rpm]	*4	1000				
Maximum Input Speed	[rpm]	*5	2000				
No Load Running Torque	[Nm]	*13	1.0				
Permitted Radial Load	[N]	*6	59000	61000	64000	64000	64000
Permitted Axial Load	[N]	*7	42000	44000	47000	48000	48000
Maximum Radial Load	[N]	*8	64000				
Maximum Axial Load	[N]	*9	48000				
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	*10	50.0	38.0	38.0	37.0	37.0
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--
Efficiency	[%]	--	90				
Torsional Rigidity	[Nm/arc/min]	*11	550				
Maximum Torsional Backlash	[arc/min]	*12	≤ 3				
Noise Level	[dB]	--	≤ 62				
Protection Class	--	*14	IP54 (IP65)				
Ambient Temperature	[°C]	--	0 - 40				
Permitted Housing Temperature	[°C]	--	90				
Weight	[kg]	*15	89				

*1) At nominal input speed, service life is 20,000 hours

*2) The maximum torque when starting or stopping operation

*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)

*4) The average input speed

*5) The maximum intermittent input speed

*6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for 255

*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)

*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)

*9) The maximum radial load that the reducer can accept

*10) The maximum axial load that the reducer can accept

*11) The efficiency at the nominal torque rating

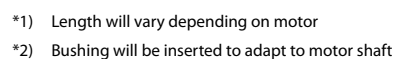
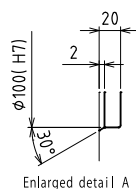
*12) This does not include the lost motion

*13) Contact SIT S.P.A. for the testing conditions and environment

*14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options

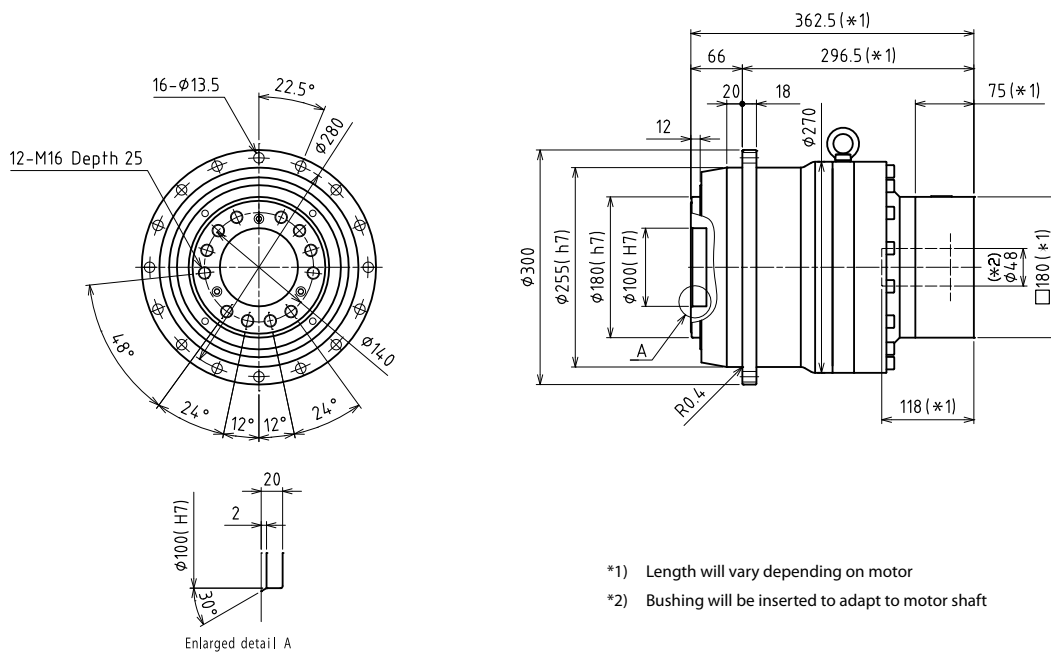
*15) The weight may vary slightly between models

Input shaft bore $\leq \phi 65$



VRT-255 – 2-Stage Dimensions

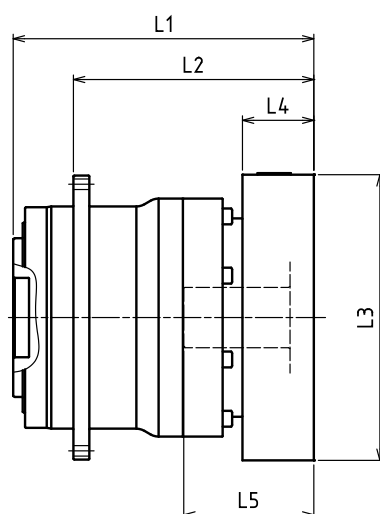
Input shaft bore $\leq \phi 48$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRT-255 – 1-Stage Adapter Dimensions



Model Number	**: Adapter Code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRT-255-□-□-48** (Input shaft bore ≤ φ48)	KA	--	--	--	--	--	--
	KB-KC	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	MA	--	--	--	--	--	--
	MB	--	--	--	--	--	--
	NA	--	--	--	--	--	--
	PA	--	--	--	--	--	--
VRT-255-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	272	192	206	□220	80	122
	NA-NC	272	192	206	□250	80	122
	NB-ND	302	192	236	□250	110	152
	PA	292	192	226	□280	100	142
	PB	302	192	236	□280	110	152
	QA-QB	292	192	226	□320	100	142

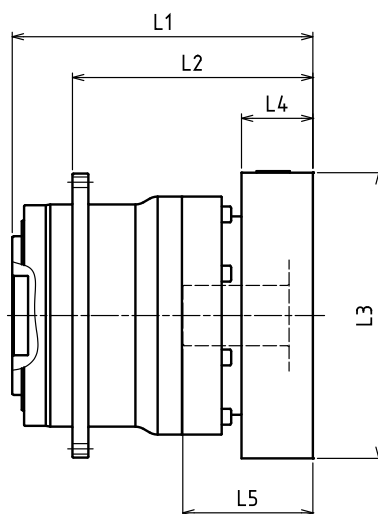
*1) Single reduction : 1/4 - 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-255 – 2-Stage Adapter Dimensions



Model Number	**: Adapter Code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRT-255-□-□-48** (Input shaft bore ≤ φ48)	KA	322.5	247.5	256.5	□180	75	118
	KB-KC	302.5	247.5	236.5	□180	55	98
	LA	302.5	247.5	236.5	□200	55	98
	MA	302.5	247.5	236.5	□220	55	98
	MB	322.5	247.5	256.5	□220	75	118
	NA	322.5	247.5	256.5	□250	75	118
	PA	322.5	247.5	256.5	□280	75	118
VRT-255-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	--	--	--	--	--	--
	NA-NC	--	--	--	--	--	--
	NB-ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--
	QA-QB	--	--	--	--	--	--

*1) Double reduction : 1/16 - 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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VRT-285 – 1-Stage Specifications

Frame Size	285					
Stage	1-Stage					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	3300	3300	3300	2200
Maximum Output Torque	[Nm]	*2	5300	5300	5300	3700
Emergency Stop Torque	[Nm]	*3	12000	12000	12000	10000
Nominal Input Speed	[rpm]	*4	1000			
Maximum Input Speed	[rpm]	*5	2000			
No Load Running Torque	[Nm]	*13	2.7			
Permitted Radial Load	[N]	*6	40000	42000	47000	52000
Permitted Axial Load	[N]	*7	34000	36000	40000	45000
Maximum Radial Load	[N]	*8	86000			
Maximum Axial Load	[N]	*9	64000			
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	*10	--	--	--	--
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	250	200	140	120
Efficiency	[%]	--	95			
Torsional Rigidity	[Nm/arc/min]	*11	850			
Maximum Torsional Backlash	[arc/min]	*12	≤ 3			
Noise Level	[dB]	--	≤ 63			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	110			

VRT-285 – 2-Stage Specifications

Frame Size	285					
Stage	2-Stage					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	2750	3300	3300	3300
Maximum Output Torque	[Nm]	*2	5300	5300	5300	5300
Emergency Stop Torque	[Nm]	*3	12000	12000	12000	12000
Nominal Input Speed	[rpm]	*4	1000			
Maximum Input Speed	[rpm]	*5	2000			
No Load Running Torque	[Nm]	*13	0.6			
Permitted Radial Load	[N]	*6	60000	64000	69000	71000
Permitted Axial Load	[N]	*7	51000	55000	59000	61000
Maximum Radial Load	[N]	*8	86000			
Maximum Axial Load	[N]	*9	64000			
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	*10	48.0	42.0	41.0	42.0
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--
Efficiency	[%]	--	90			
Torsional Rigidity	[Nm/arc/min]	*11	850			
Maximum Torsional Backlash	[arc/min]	*12	≤ 3			
Noise Level	[dB]	--	≤ 63			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	120			

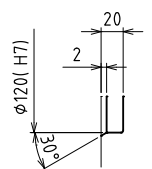
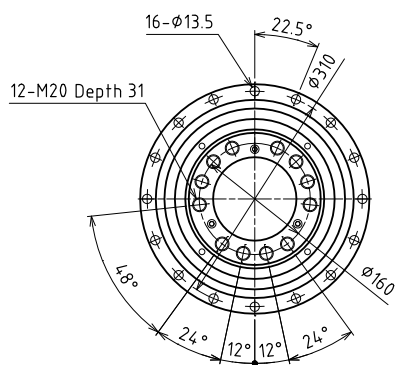
VRT-285 – 2-Stage Specifications

Frame Size	285						
Stage	2-Stage						
Ratio	Unit	Note	35	40	50	70	100
Nominal Output Torque	[Nm]	*1	3300	3300	3300	3300	2200
Maximum Output Torque	[Nm]	*2	5300	5300	5300	5300	2500
Emergency Stop Torque	[Nm]	*3	12000	12000	12000	12000	10000
Nominal Input Speed	[rpm]	*4	1000				
Maximum Input Speed	[rpm]	*5	2000				
No Load Running Torque	[Nm]	*13	0.6				
Permitted Radial Load	[N]	*6	76000	79000	85000	86000	86000
Permitted Axial Load	[N]	*7	64000	64000	64000	64000	64000
Maximum Radial Load	[N]	*8	86000				
Maximum Axial Load	[N]	*9	64000				
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	*10	39.0	36.0	35.0	35.0	35.0
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--
Efficiency	[%]	--	90				
Torsional Rigidity	[Nm/arc/min]	*11	850				
Maximum Torsional Backlash	[arc/min]	*12	≤ 3				
Noise Level	[dB]	--	≤ 63				
Protection Class	--	*14	IP54 (IP65)				
Ambient Temperature	[°C]	--	0 - 40				
Permitted Housing Temperature	[°C]	--	90				
Weight	[kg]	*15	120				

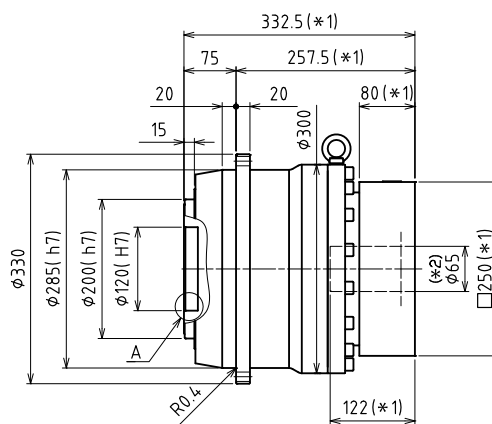
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation
- *3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- *4) The average input speed
- *5) The maximum intermittent input speed
- *6) This is the torque at no load applied on the input shaft. The input speed is 1,000 rpm for VRT285
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output flange center)
- *9) The maximum radial load that the reducer can accept
- *10) The maximum axial load that the reducer can accept
- *11) The efficiency at the nominal torque rating
- *12) This does not include the lost motion
- *13) Contact SIT S.P.A. for the testing conditions and environment
- *14) IP65 (wash-down) is available as an option. Contact SIT S.P.A. for more details and our food grade options
- *15) The weight may vary slightly between models

VRT-285 – 1-Stage Dimensions

Input shaft bore $\leq \phi 65$



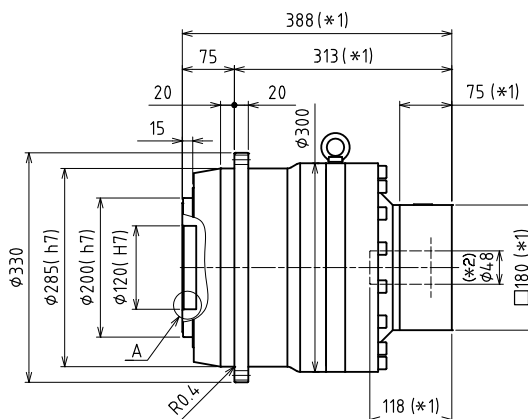
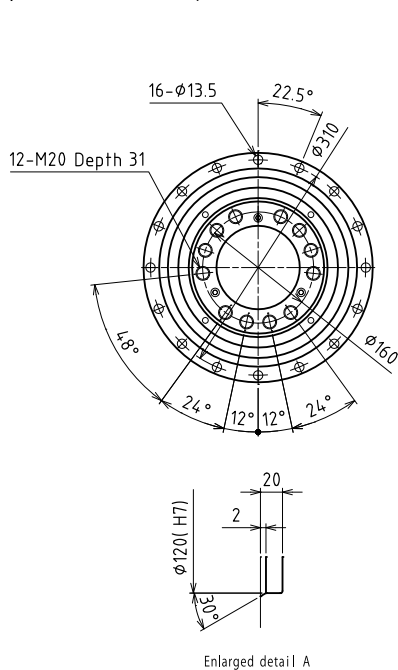
Enlarged detail A



- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRT-285 – 2-Stage Dimensions

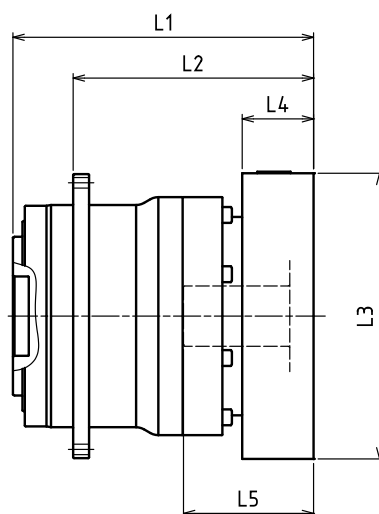
Input shaft bore $\leq \phi 48$



*1) Length will vary depending on motor

*2) Bushing will be inserted to adapt to motor shaft

VRT-285 – 1-Stage Adapter Dimensions



Model Number	**: Adapter Code	1-Stage					
		L1	L*	L2	L3	L4	L5
VRT-285-□-□-48** (Input shaft bore ≤ φ48)	KA	--	--	--	--	--	--
	KB-KC	--	--	--	--	--	--
	LA	--	--	--	--	--	--
	MA	--	--	--	--	--	--
	MB	--	--	--	--	--	--
	NA	--	--	--	--	--	--
	PA	--	--	--	--	--	--
VRT-285-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	283.5	203.5	208.5	□220	80	122
	NA-NC	283.5	203.5	208.5	□250	80	122
	NB-ND	313.5	203.5	238.5	□250	110	152
	PA	303.5	203.5	228.5	□280	100	142
	PB	313.5	203.5	238.5	□280	110	152
	QA-QB	303.5	203.5	228.5	□320	100	142

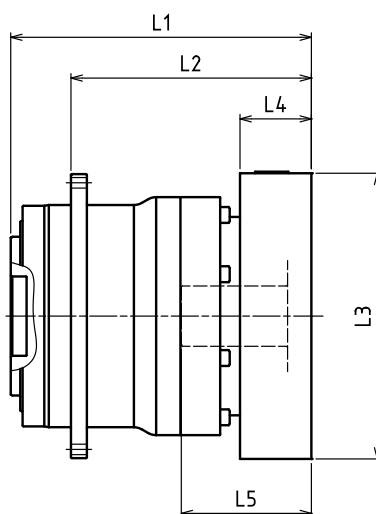
*1) Single reduction : 1/3~ 1/10

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

A more comprehensive adapter flange offering can be found using the NIDEC-SHIMPO Online Selector Tool. The variety is constantly expanding and being updated on the Selector Tool. If you have any questions or need any support, contact SIT S.P.A.

VRT-285 – 2-Stage Adapter Dimensions



Model Number	**: Adapter Code	2-Stage					
		L1	L*	L2	L3	L4	L5
VRT-285-□-□-48** (Input shaft bore ≤ φ48)	KA	339	264	264	□180	75	118
	KB-KC	319	264	244	□180	55	98
	LA	319	264	244	□200	55	98
	MA	319	264	244	□220	55	98
	MB	339	264	264	□220	75	118
	NA	339	264	264	□250	75	118
	PA	339	264	264	□280	75	118
VRT-285-□-□-65** (Input shaft bore ≤ φ65)	MA-MB-MC-MD	--	--	--	--	--	--
	NA-NC	--	--	--	--	--	--
	NB-ND	--	--	--	--	--	--
	PA	--	--	--	--	--	--
	PB	--	--	--	--	--	--
	QA-QB	--	--	--	--	--	--

*1) Double reduction : 1/15~ 1/100

*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 366.

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