

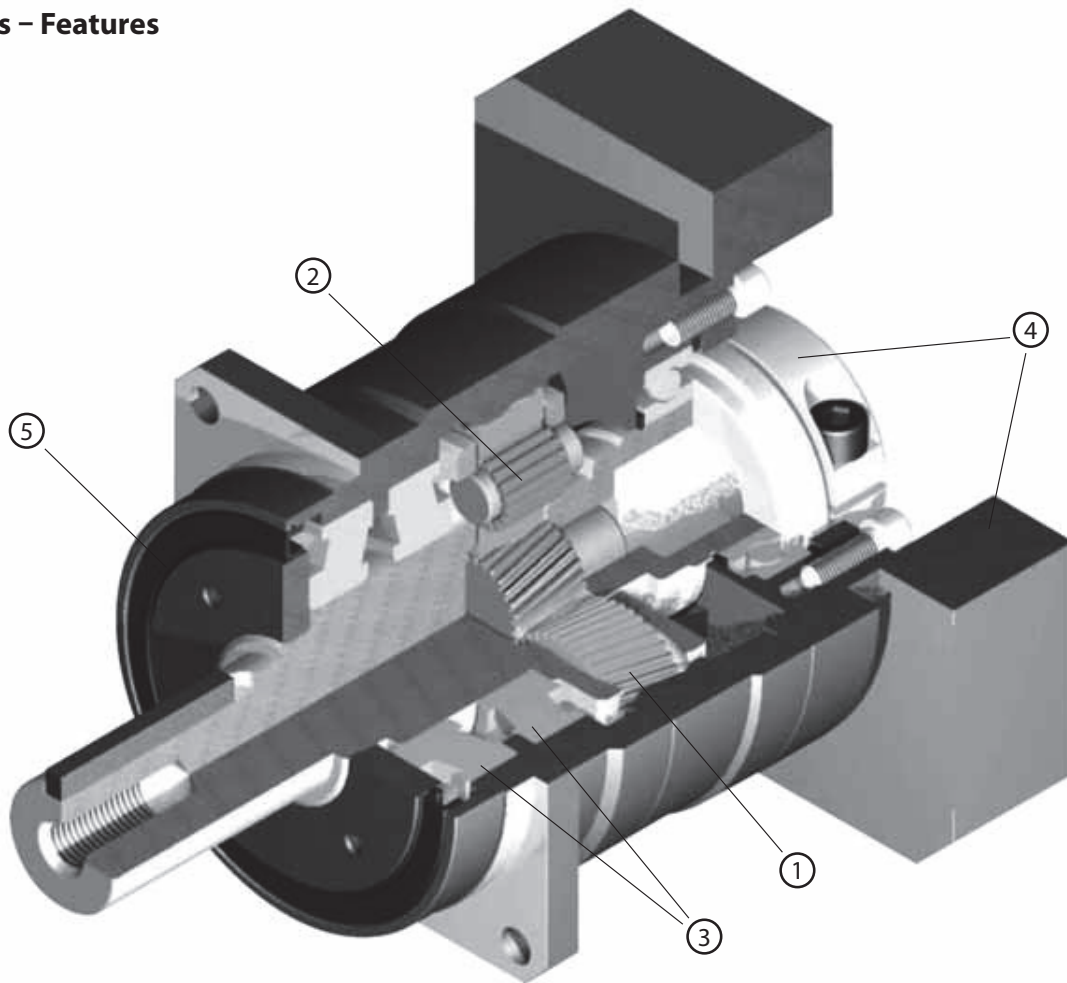


### VRS-SERIES

- Industry standard mounting dimensions
- Large variety of frame sizes and ratios
- Thru-bolt mounting style
- Best-in-class backlash ( $\leq 3$  arc-min)
- Impressive radial and axial load ratings
- Ships in 48 hours in standard frame sizes
- Assembled in the USA

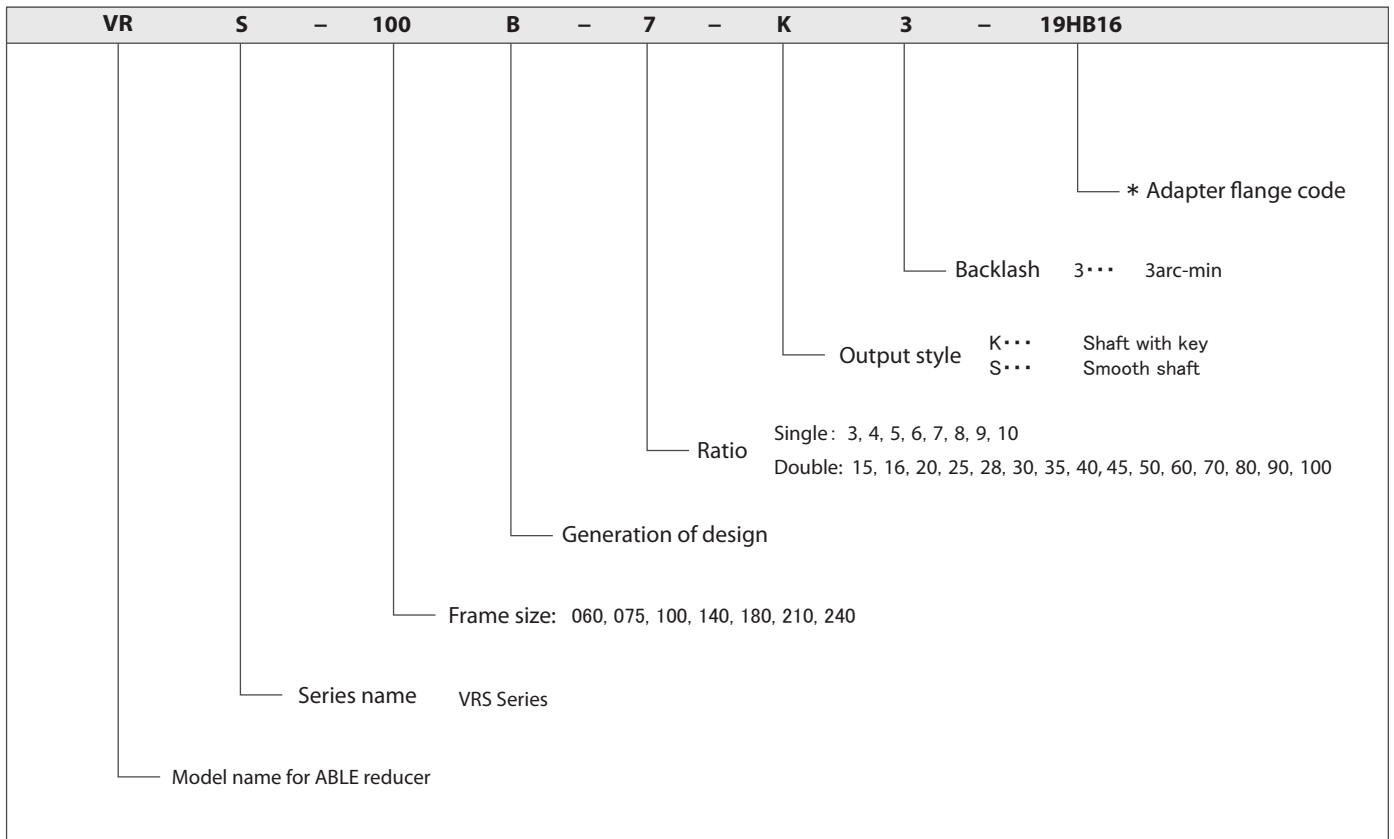
# VRS-SERIES Inline shaft

## 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



VRS

\*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](http://www.nidec-shimpo.co.jp/selection/eng)



# VRS-SERIES Inline shaft

## VRS-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	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 ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.150	0.100	0.080	0.070	0.064	0.060	0.058	0.056
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.230	0.180	0.160	0.150	0.140	0.140	0.140	0.140
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 3$							
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-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	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 ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.055	0.057	0.054	0.053	0.055	0.049	0.053	0.049
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.140	0.140	0.130	0.130	0.140	0.130	0.130	0.130
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	3							
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$							
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-060 – 2-Stage Specifications

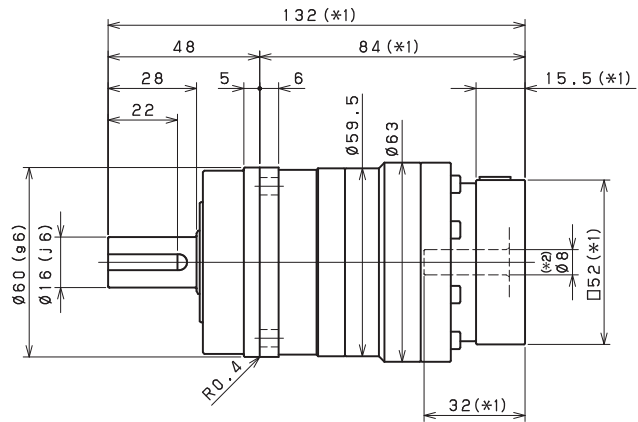
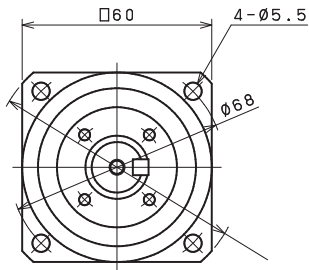
Frame Size	060										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	18		
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	35		
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	80		
Nominal Input Speed	[rpm]	*4	3000								
Maximum 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 <sup>2</sup> ]	--	0.053	0.049	0.049	0.049	0.049	0.049	0.049		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.130	0.130	0.130	0.130	0.130	0.130	0.130		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	3								
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$								
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 NIDEC-SHIMPO for the testing conditions and environment
- \*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options
- \*15) The weight may vary slightly between models

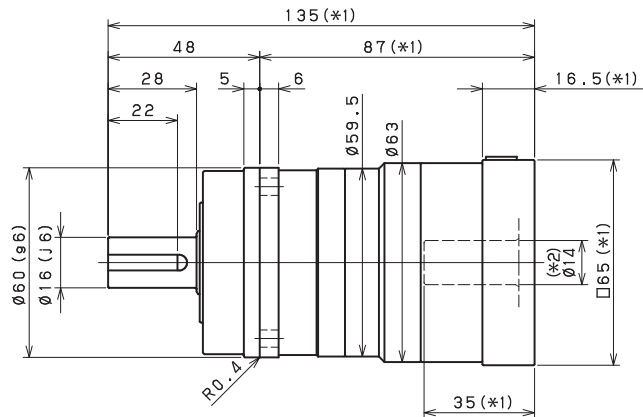
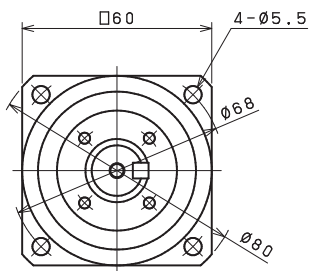
# VRS-SERIES Inline shaft

## VRS-o6o – 1-Stage Dimensions

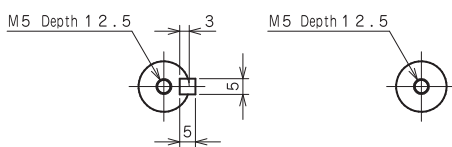
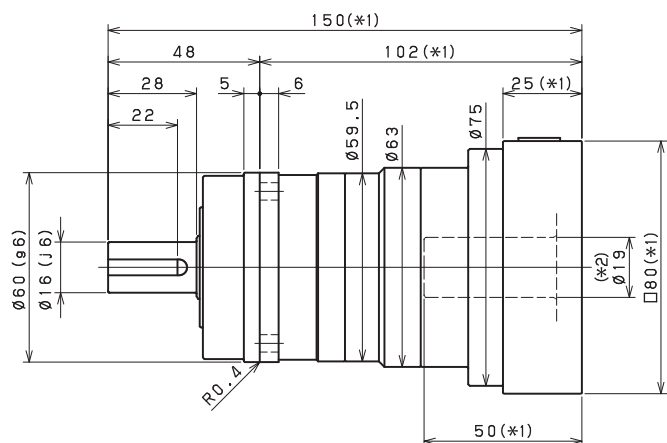
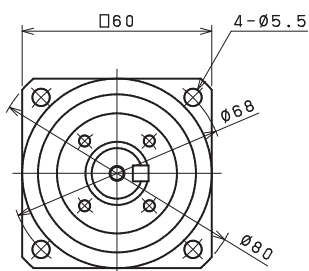
Input shaft bore  $\leq \varnothing 8$



Input shaft bore  $\leq \varnothing 14$



Input shaft bore  $\leq \varnothing 19$



Shaft with key

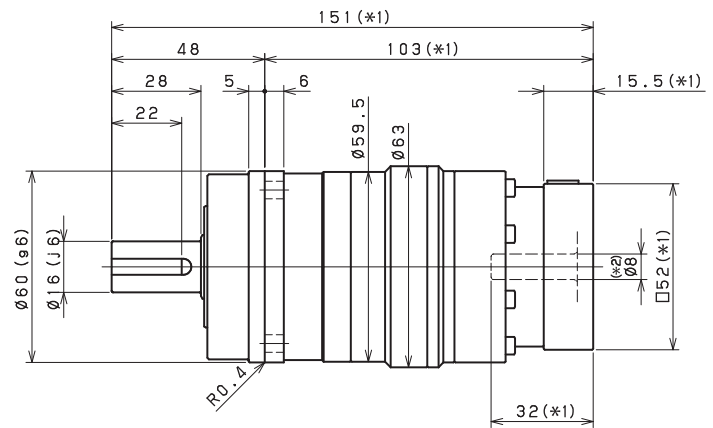
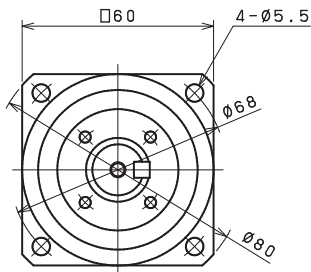
Smooth shaft

\*1) Length will vary depending on motor

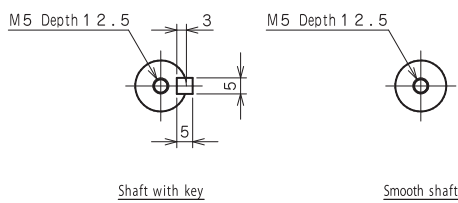
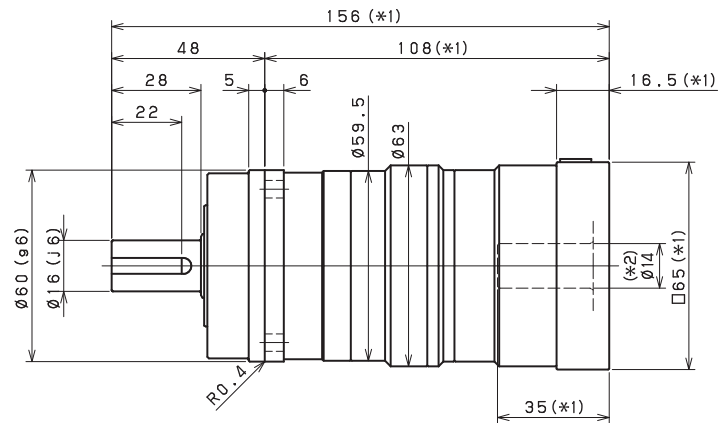
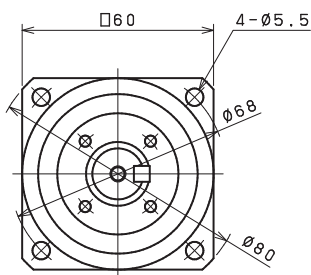
\*2) Bushing will be inserted to adapt to motor shaft

VRS-o6o – 2-Stage Dimensions

Input shaft bore  $\leq \phi 8$



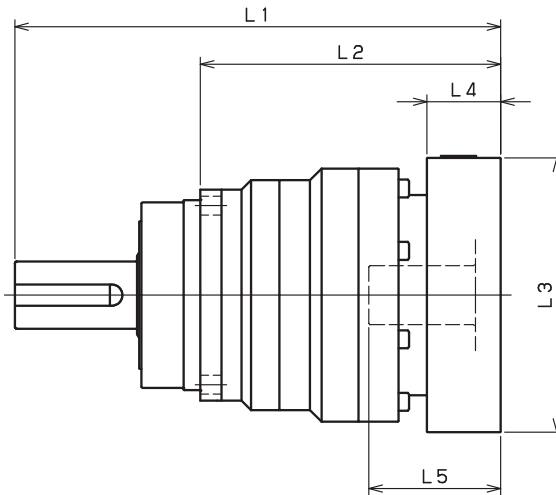
Input shaft bore  $\leq \phi 14$



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

# VRS-SERIES Inline shaft

## VRS-060 – 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

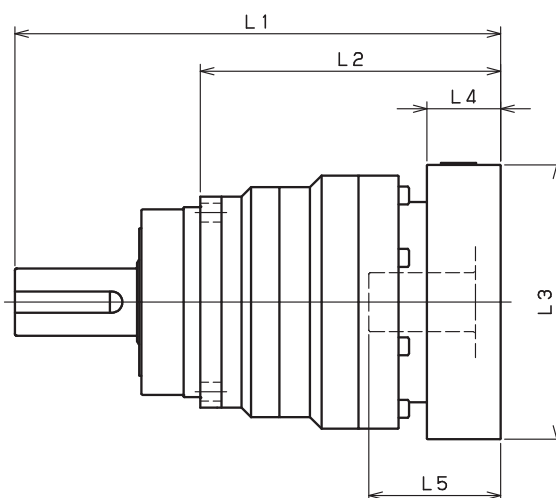
\*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

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 NIDEC-SHIMPO.



## VRS-060 – 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 422.

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 NIDEC-SHIMPO.

# VRS-SERIES Inline shaft

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--		
Moment of Inertia ( $\leq \emptyset 14$ )	[kgcm <sup>2</sup> ]	--	0.670	0.470	0.380	0.340	0.310	0.300	0.290	0.290		
Moment of Inertia ( $\leq \emptyset 19$ )	[kgcm <sup>2</sup> ]	--	1.100	0.930	0.850	0.810	0.780	0.760	0.750	0.750		
Moment of Inertia ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 3$									
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 <sup>2</sup> ]	--	0.130	0.140	0.130	0.120	0.140	0.099	0.120	0.098		
Moment of Inertia ( $\leq \emptyset 14$ )	[kgcm <sup>2</sup> ]	--	0.280	0.300	0.280	0.280	0.290	0.250	0.270	0.250		
Moment of Inertia ( $\leq \emptyset 19$ )	[kgcm <sup>2</sup> ]	--	0.720	0.730	0.720	0.710	0.730	0.700	0.710	0.690		
Moment of Inertia ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90									
Torsional Rigidity	[Nm/arc-min]	*12	10									
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$									
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

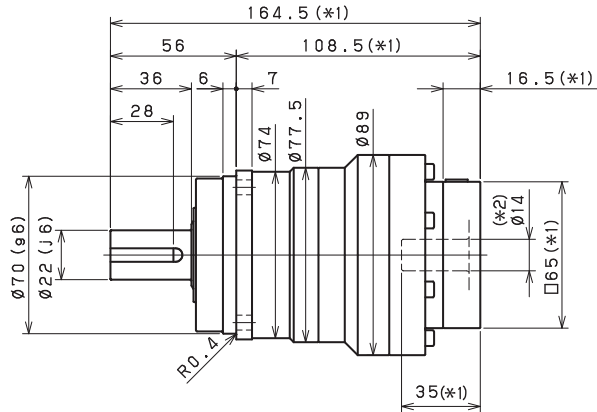
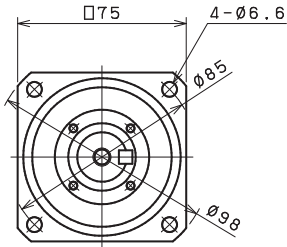
Frame Size	075										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	50		
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	80		
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	200		
Nominal Input Speed	[rpm]	*4	3000								
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 <sup>2</sup> ]	--	0.120	0.098	0.098	0.097	0.097	0.097	0.097		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.270	0.250	0.250	0.250	0.250	0.250	0.250		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.710	0.690	0.690	0.690	0.690	0.690	0.690		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	10								
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$								
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 NIDEC-SHIMPO for the testing conditions and environment
- \*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options
- \*15) The weight may vary slightly between models

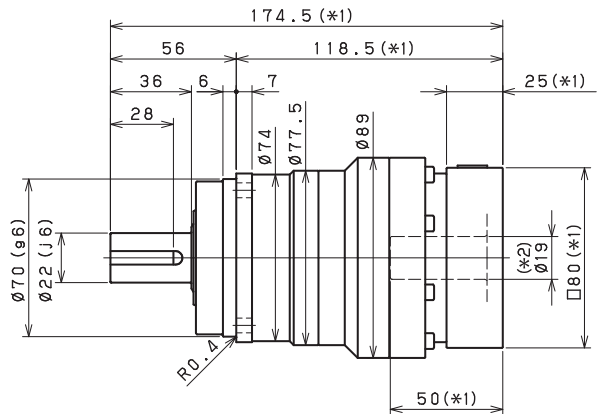
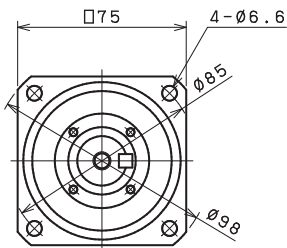
# VRS-SERIES Inline shaft

## VRS-075 - 1-Stage Dimensions

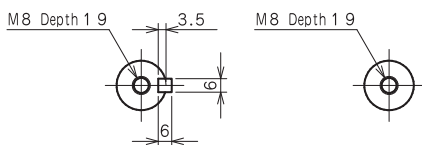
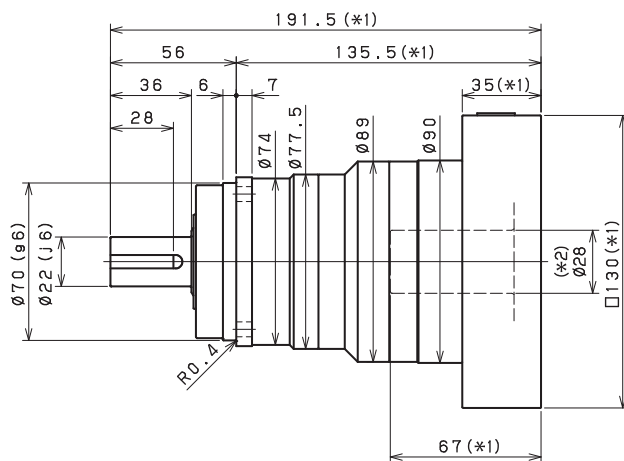
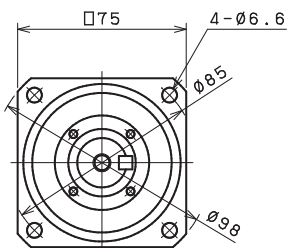
Input shaft bore  $\leq \varnothing 14$



Input shaft bore  $\leq \varnothing 19$



Input shaft bore  $\leq \varnothing 28$



Shaft with key

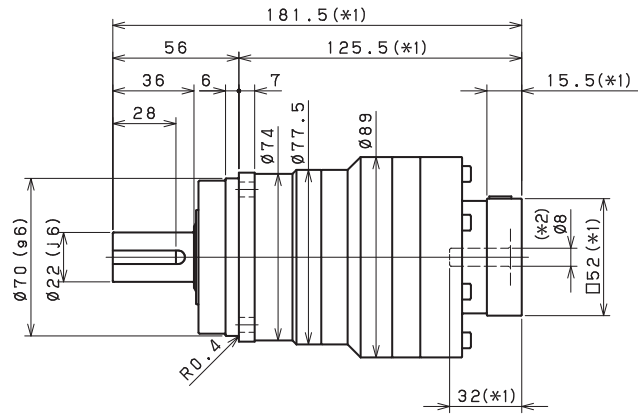
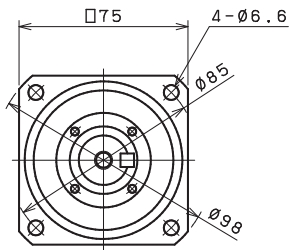
Smooth shaft

\*1) Length will vary depending on motor

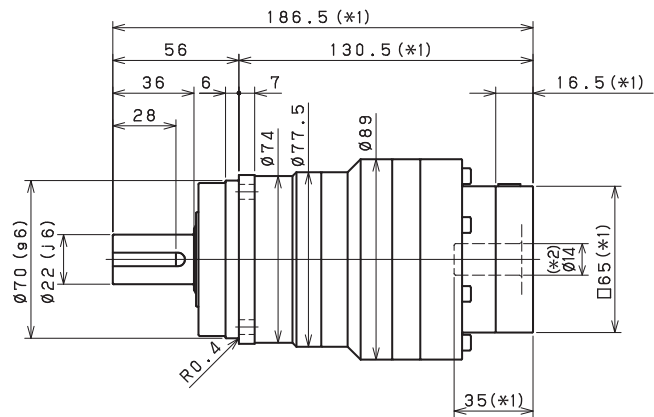
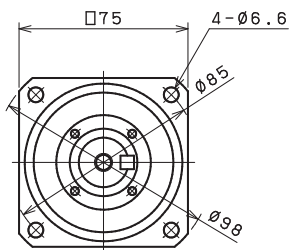
\*2) Bushing will be inserted to adapt to motor shaft

VRS-075 – 2-Stage Dimensions

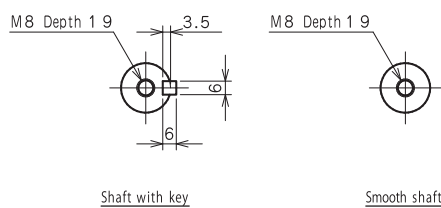
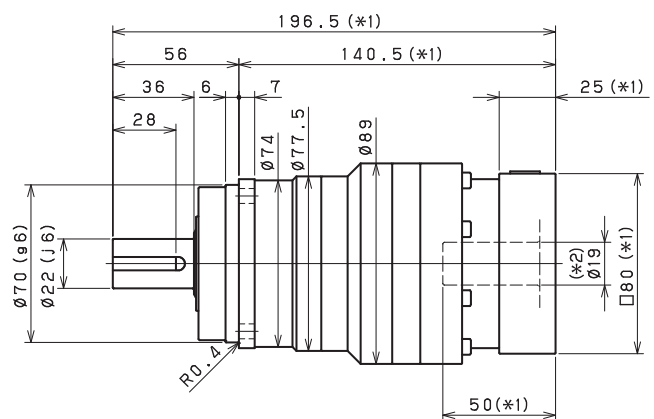
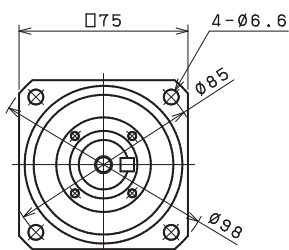
Input shaft bore  $\leq \phi 8$



Input shaft bore  $\leq \phi 14$



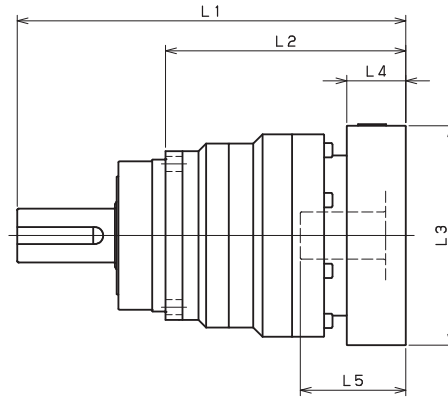
Input shaft bore  $\leq \phi 19$



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

# VRS-SERIES Inline 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
VRS-075-□-□-19** (Input shaft bore ≤ φ19)	JA	179.5	148	123.5	□150	31.5	50
	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
VRS-075-□-□-28** (Input shaft bore ≤ φ28)	JA	184.5	149.5	128.5	□150	35	60
	JB	189.5	149.5	133.5	□150	40	65
	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
VRS-075-□-□-28** (Input shaft bore ≤ φ28)	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

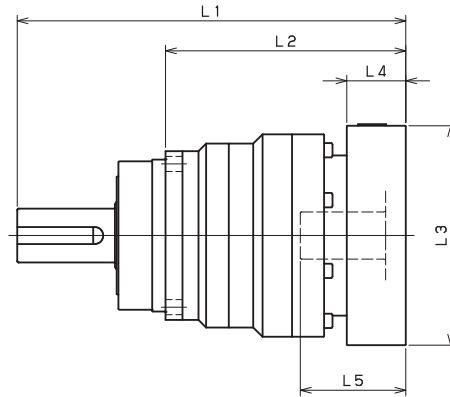
\*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 422.

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 NIDEC-SHIMPO.

## 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
VRS-075-□-□-19** (Input shaft bore ≤ φ19)	JA	201.5	170	145.5	□150	31.5	50
	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
VRS-075-□-□-28** (Input shaft bore ≤ φ28)	JA	206.5	171.5	150.5	□150	35	60
	JB	211.5	171.5	155.5	□150	40	65
	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
VRS-075-□-□-28** (Input shaft bore ≤ φ28)	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 422.

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 NIDEC-SHIMPO.

# VRS-SERIES Inline shaft

## 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 ( $\leq \emptyset 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \emptyset 19$ )	[kgcm <sup>2</sup> ]	--	3.200	2.000	1.500	1.300	1.100	1.000	0.960	0.930
Moment of Inertia ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	5.200	4.000	3.600	3.300	3.100	3.000	3.000	3.000
Moment of Inertia ( $\leq \emptyset 38$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 3$							
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 ( $\leq \emptyset 14$ )	[kgcm <sup>2</sup> ]	--	0.420	0.480	0.400	0.380	0.440	0.290	0.370	0.280
Moment of Inertia ( $\leq \emptyset 19$ )	[kgcm <sup>2</sup> ]	--	0.860	0.910	0.830	0.820	0.870	0.740	0.810	0.730
Moment of Inertia ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	2.800	2.900	2.800	2.800	2.800	2.700	2.700	2.700
Moment of Inertia ( $\leq \emptyset 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	31							
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$							
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

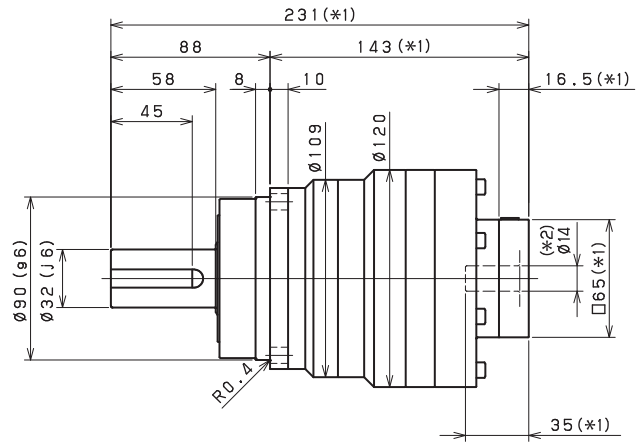
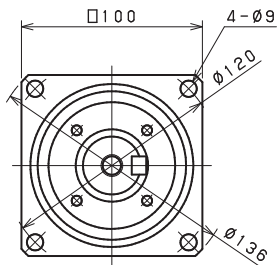
Frame Size	100										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	120		
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	225		
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	500		
Nominal Input Speed	[rpm]	*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 (≤ Ø 14)	[kgcm <sup>2</sup> ]	--	0.370	0.280	0.280	0.280	0.280	0.270	0.270		
Moment of Inertia (≤ Ø 19)	[kgcm <sup>2</sup> ]	--	0.800	0.730	0.730	0.730	0.730	0.730	0.730		
Moment of Inertia (≤ Ø 28)	[kgcm <sup>2</sup> ]	--	2.700	2.700	2.700	2.700	2.700	2.700	2.700		
Moment of Inertia (≤ Ø 38)	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
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 NIDEC-SHIMPO for the testing conditions and environment
- \*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options
- \*15) The weight may vary slightly between models

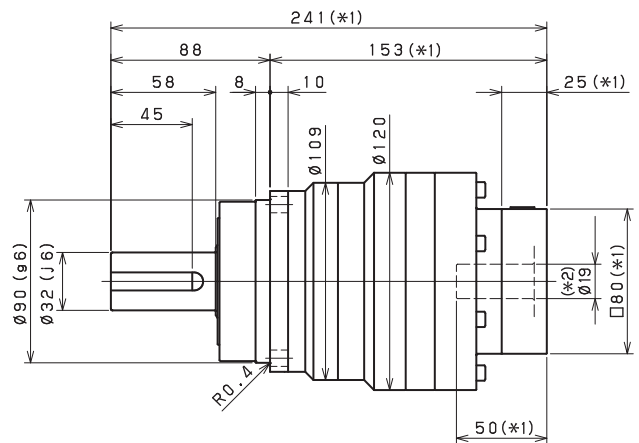
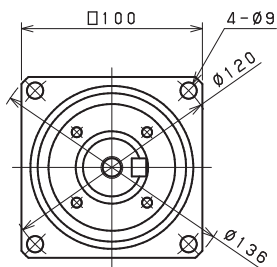


## VRS-100 – 2-Stage Dimensions

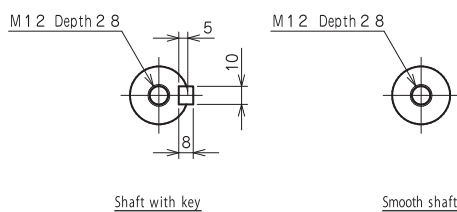
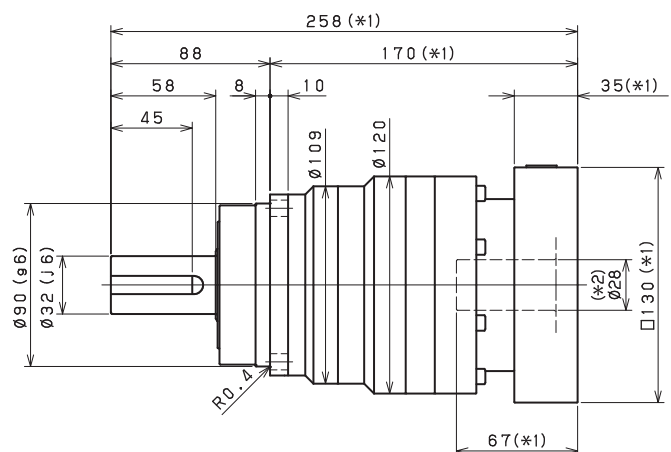
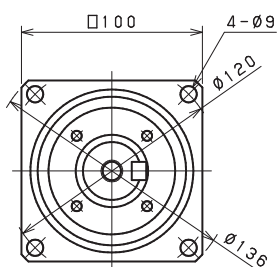
Input shaft bore  $\leq \phi 14$



Input shaft bore  $\leq \phi 19$



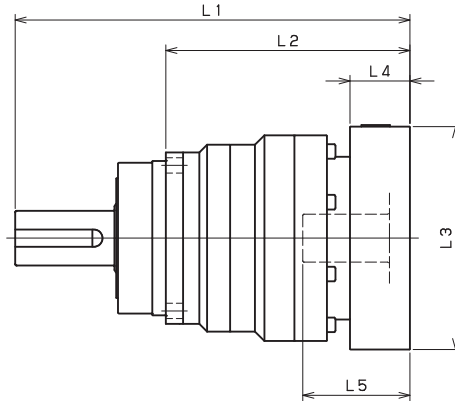
Input shaft bore  $\leq \phi 28$



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

# VRS-SERIES Inline 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	--	--	--	--	--	--
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
	HB	218.5	188.5	130.5	□130	30	55
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
VRS-100-□-□-38** (Input shaft bore ≤ φ38)	KD	240.5	195.5	152.5	□180	45	77
	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	

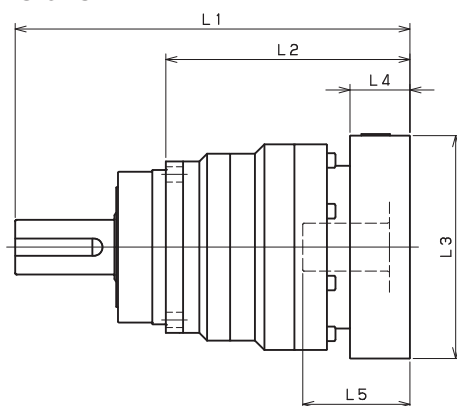
\*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 422.

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 NIDEC-SHIMPO.

## 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
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)	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
	KA•KB•KE	258	223	170	□180	35	67
VRS-100-□-□-38** (Input shaft bore ≤ φ38)	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 422.

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 NIDEC-SHIMPO.

# VRS-SERIES Inline shaft

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	12.000	7.400	5.800	4.900	4.100	3.800	3.600	3.400
Moment of Inertia ( $\leq \emptyset 38$ )	[kgcm <sup>2</sup> ]	--	20.000	15.000	13.000	13.000	12.000	12.000	11.000	11.000
Moment of Inertia ( $\leq \emptyset 48$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 3$							
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 <sup>2</sup> ]	--	1.300	1.500	1.200	1.100	1.400	0.850	1.100	0.830
Moment of Inertia ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	3.200	3.500	3.100	3.100	3.300	2.800	3.100	2.800
Moment of Inertia ( $\leq \emptyset 38$ )	[kgcm <sup>2</sup> ]	--	11.000	11.000	11.000	11.000	11.000	10.000	11.000	10.000
Moment of Inertia ( $\leq \emptyset 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	60							
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$							
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

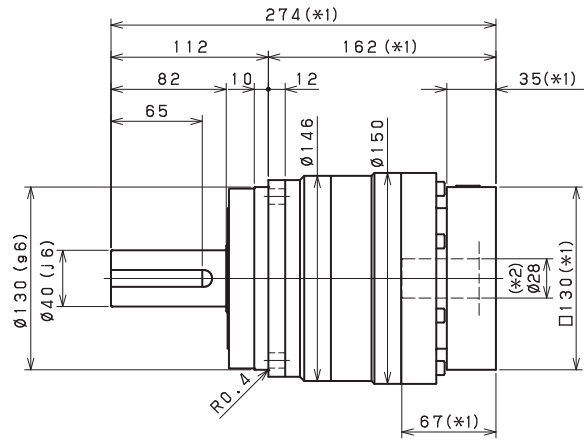
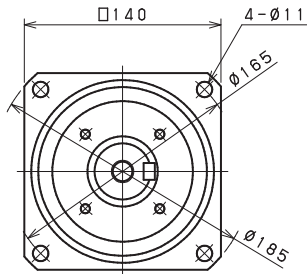
Frame Size	140										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	240		
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	470		
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1000		
Nominal Input Speed	[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 (≤ Ø 19)	[kgcm <sup>2</sup> ]	--	1.100	0.810	0.810	0.800	0.800	0.800	0.800		
Moment of Inertia (≤ Ø 28)	[kgcm <sup>2</sup> ]	--	3.000	2.800	2.800	2.800	2.800	2.800	2.800		
Moment of Inertia (≤ Ø 38)	[kgcm <sup>2</sup> ]	--	11.000	10.000	10.000	10.000	10.000	10.000	10.000		
Moment of Inertia (≤ Ø 48)	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
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 NIDEC-SHIMPO for the testing conditions and environment
- \*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options
- \*15) The weight may vary slightly between models

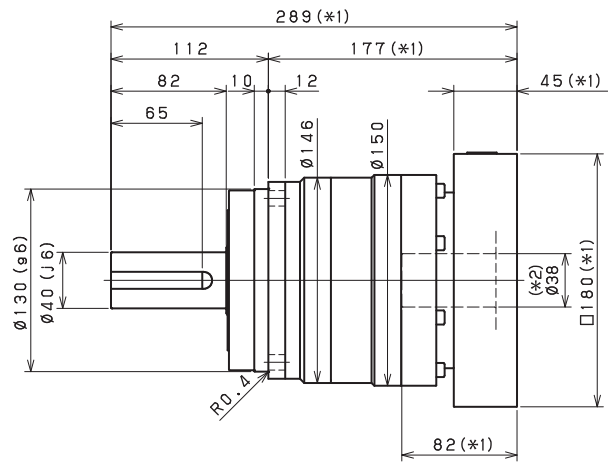
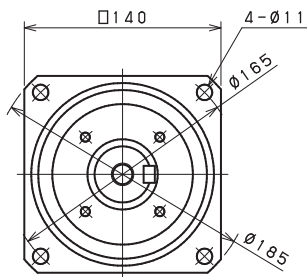
# VRS-SERIES Inline shaft

## VRS-140 – 1-Stage Dimensions

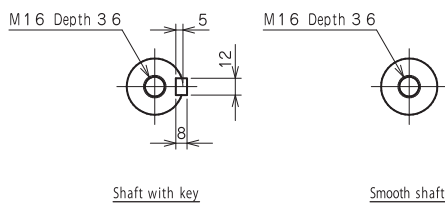
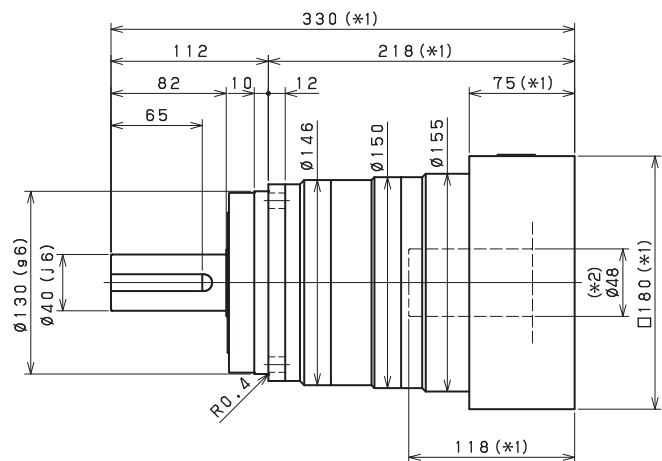
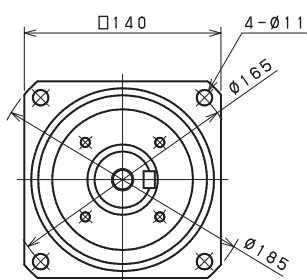
Input shaft bore  $\leq \varnothing 28$



Input shaft bore  $\leq \varnothing 38$



Input shaft bore  $\leq \varnothing 48$

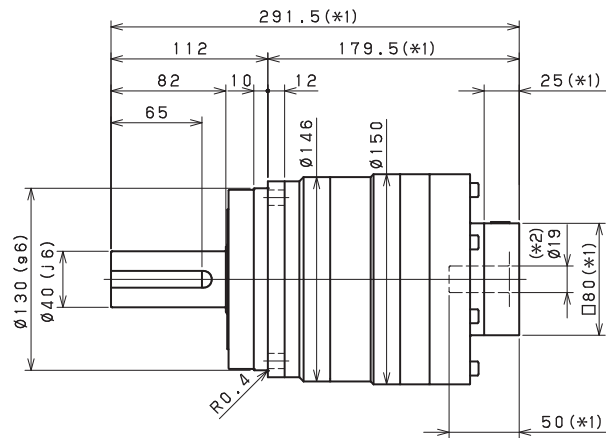
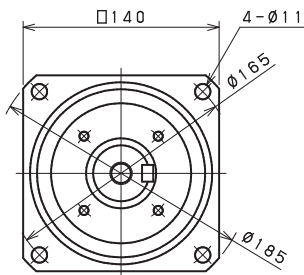


- \*1) Length will vary depending on motor
- \*2) Bushing will be inserted to adapt to motor shaft

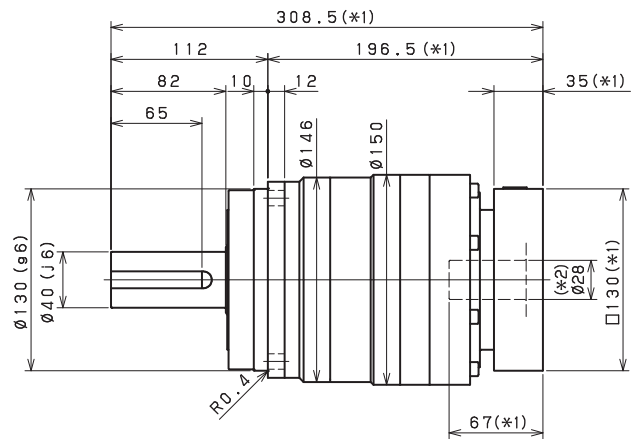
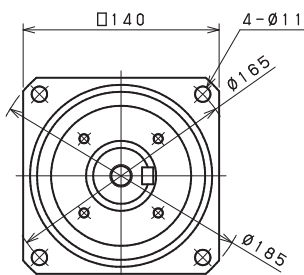


## VRS-140 – 2-Stage Dimensions

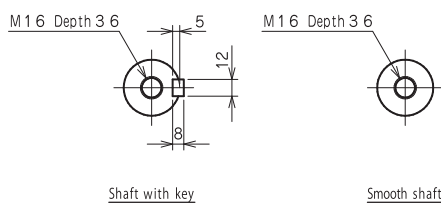
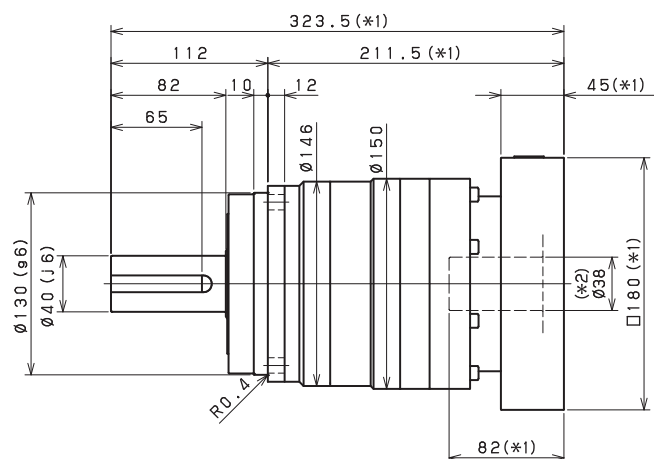
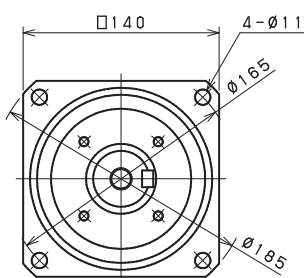
Input shaft bore  $\leq \phi 19$



Input shaft bore  $\leq \phi 28$



Input shaft bore  $\leq \phi 38$



Shaft with key

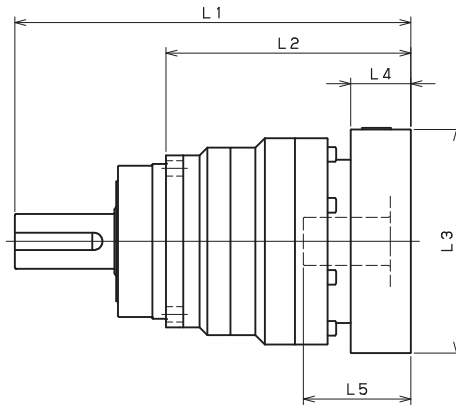
Smooth shaft

\*1) Length will vary depending on motor

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

# VRS-SERIES Inline 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	--	--	--	--	--	--
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
VRS-140-□-□-38** (Input shaft bore ≤ φ38)	MB	284	239	172	□220	45	77
	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
VRS-140-□-□-48** (Input shaft bore ≤ φ48)	MC	304	244	192	□220	60	97
	MD	299	244	187	□220	55	92
	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	

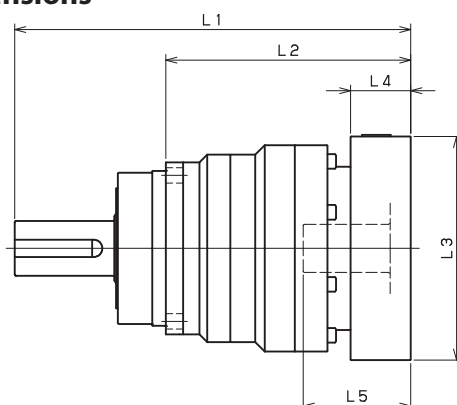
\*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 422.

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 NIDEC-SHIMPO.

## 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
VRS-140-□-□-38** (Input shaft bore ≤ φ38)	MB	318.5	273.5	206.5	□220	45	77
	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
VRS-140-□-□-48** (Input shaft bore ≤ φ48)	MD	333.5	278.5	221.5	□220	55	92
	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 422.

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 NIDEC-SHIMPO.

# VRS-SERIES Inline shaft

## 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 ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--	
Moment of Inertia ( $\leq \emptyset 38$ )	[kgcm <sup>2</sup> ]	--	42.000	27.000	21.000	18.000	16.000	15.000	14.000	14.000	
Moment of Inertia ( $\leq \emptyset 48$ )	[kgcm <sup>2</sup> ]	--	64.000	49.000	43.000	40.000	38.000	37.000	36.000	36.000	
Moment of Inertia ( $\leq \emptyset 65$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 3$								
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 ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	4.700	5.400	4.300	4.200	4.900	3.200	4.100	3.200	
Moment of Inertia ( $\leq \emptyset 38$ )	[kgcm <sup>2</sup> ]	--	12.000	13.000	12.000	12.000	13.000	11.000	12.000	11.000	
Moment of Inertia ( $\leq \emptyset 48$ )	[kgcm <sup>2</sup> ]	--	34.000	35.000	34.000	34.000	35.000	33.000	34.000	33.000	
Moment of Inertia ( $\leq \emptyset 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--	
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	175								
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$								
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

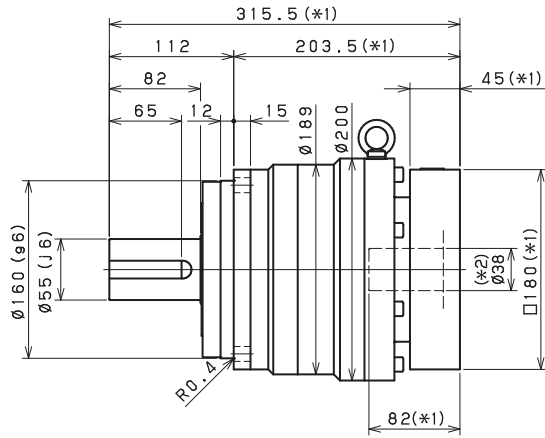
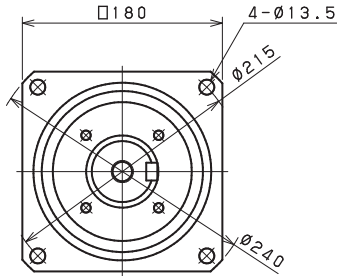
Frame Size	180										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	500		
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	970		
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2200		
Nominal Input Speed	[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 <sup>2</sup> ]	--	4.000	3.100	3.100	3.100	3.100	3.100	3.100		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	12.000	11.000	11.000	11.000	11.000	11.000	11.000		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	34.000	33.000	33.000	33.000	33.000	33.000	33.000		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	175								
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$								
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 1,5000 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 NIDEC-SHIMPO for the testing conditions and environment
- \*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options
- \*15) The weight may vary slightly between models

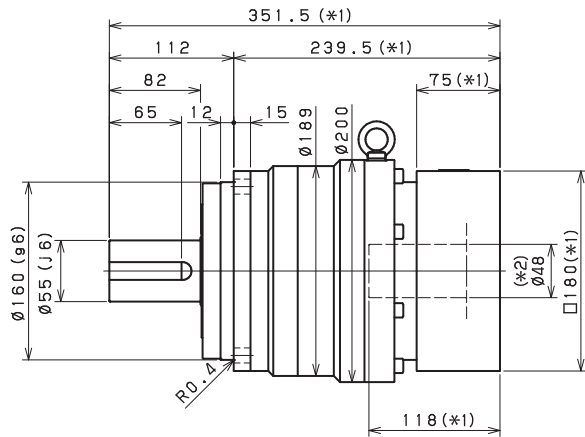
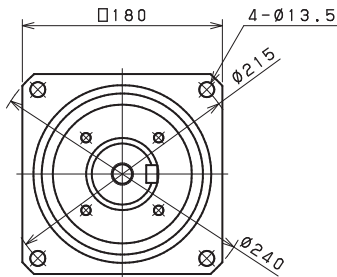
# VRS-SERIES Inline shaft

## VRS-180 – 1-Stage Dimensions

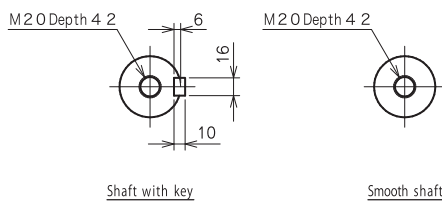
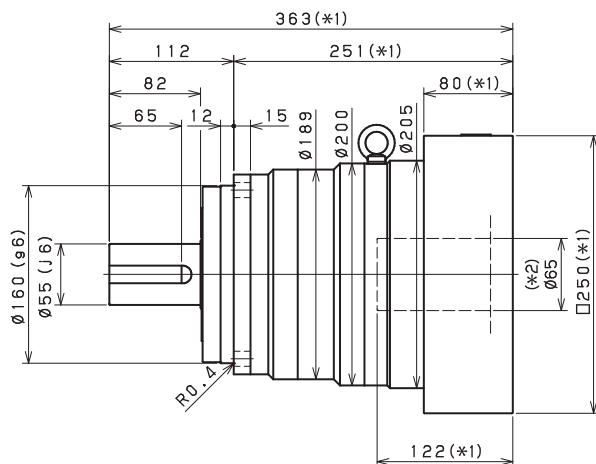
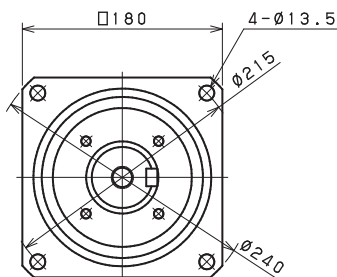
Input shaft bore  $\cong \varnothing 38$



Input shaft bore  $\cong \varnothing 48$



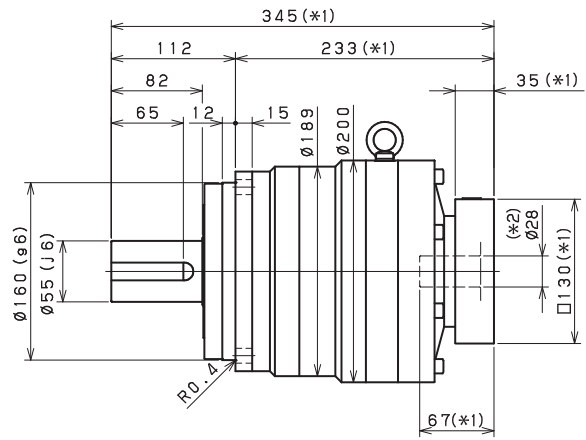
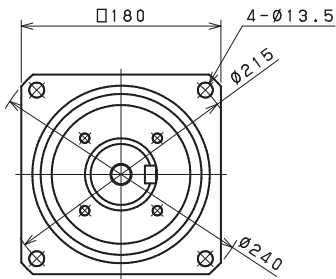
Input shaft bore  $\cong \varnothing 65$



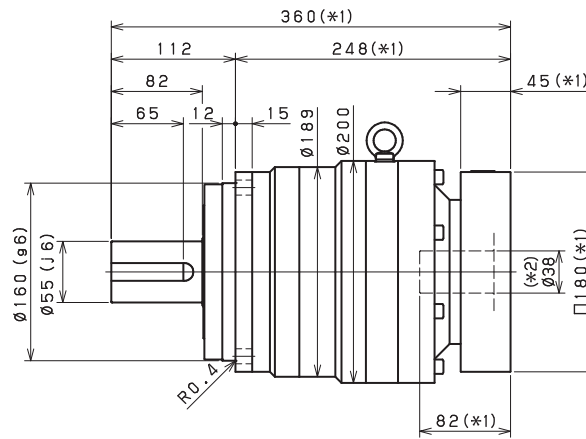
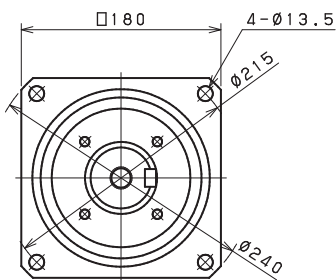
- \*1) Length will vary depending on motor
- \*2) Bushing will be inserted to adapt to motor shaft

VRS-180 – 2-Stage Dimensions

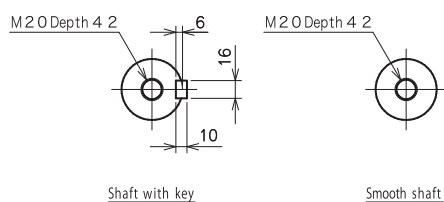
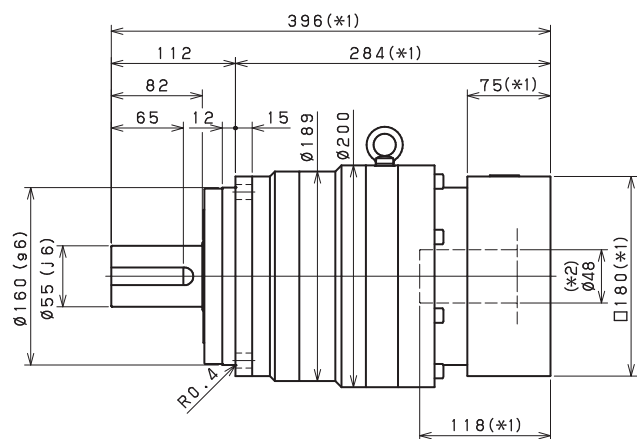
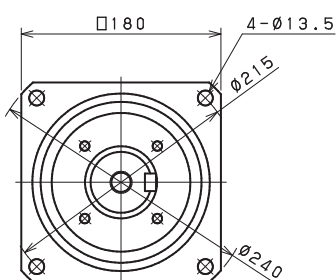
Input shaft bore  $\leq \phi 28$



Input shaft bore  $\leq \phi 38$



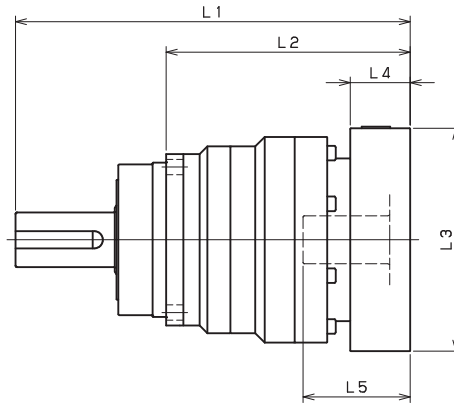
Input shaft bore  $\leq \phi 48$



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

# VRS-SERIES Inline shaft

## 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	--	--	--	--	--	--
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
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

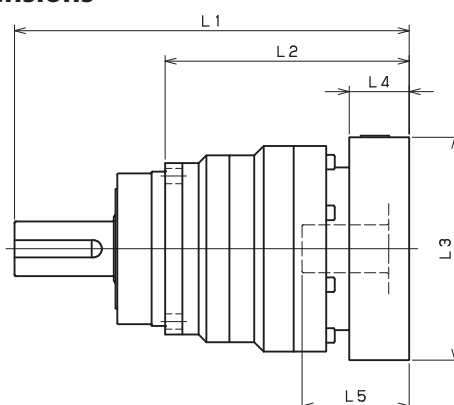
\*2) Bushing will be inserted to adapt to motor shaft

For an explanation on the Adapter Flange Code, please turn to page 422.

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 NIDEC-SHIMPO.



## 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
VRS-180-□-□-65** (Input shaft bore ≤ φ65)	PA	396	321	284	□280	75	118
	MA·MB·MC·MD	--	--	--	--	--	--
	NA·NC	--	--	--	--	--	--
	NB·ND	--	--	--	--	--	--
	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 422.

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 NIDEC-SHIMPO.

# VRS-SERIES Inline shaft

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	92.000	63.000	53.000	47.000	43.000	40.000	39.000	38.000
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 3$							
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 <sup>2</sup> ]	--	14.000	16.000	14.000	14.000	15.000	12.000	13.000	12.000
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	36.000	37.000	36.000	35.000	36.000	34.000	35.000	33.000
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	92							
Torsional Rigidity	[Nm/arc-min]	*12	400							
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$							
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

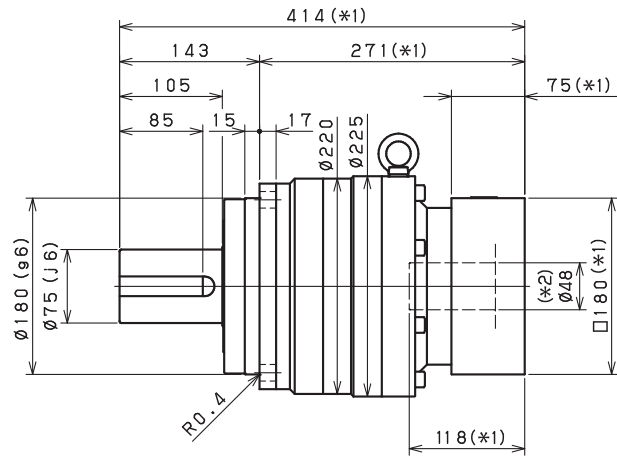
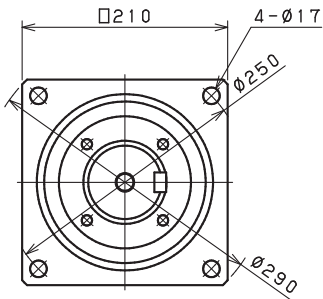
Frame Size	210										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1000		
Maximum Acceleration Torque	[Nm]	*2	1300	2300	2300	2300	1800	1300	1200		
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	4000		
Nominal 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 <sup>2</sup> ]	--	13.000	12.000	12.000	12.000	12.000	12.000	12.000		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	35.000	33.000	33.000	33.000	33.000	33.000	33.000		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	92								
Torsional Rigidity	[Nm/arc-min]	*12	400								
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$								
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 NIDEC-SHIMPO for the testing conditions and environment
- \*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options
- \*15) The weight may vary slightly between models

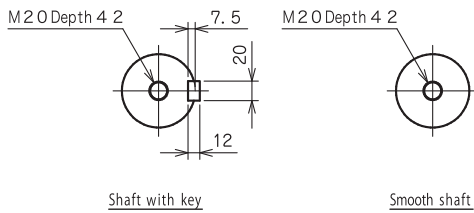
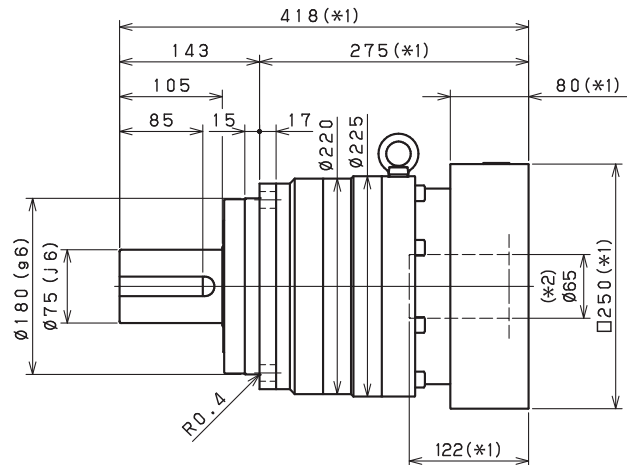
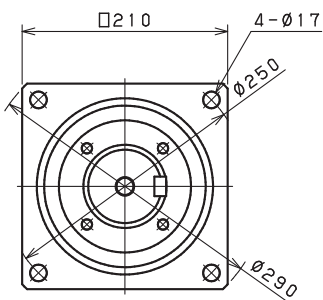
# VRS-SERIES Inline shaft

## VRS-210 – 1-Stage Dimensions

Input shaft bore  $\leq \phi 48$



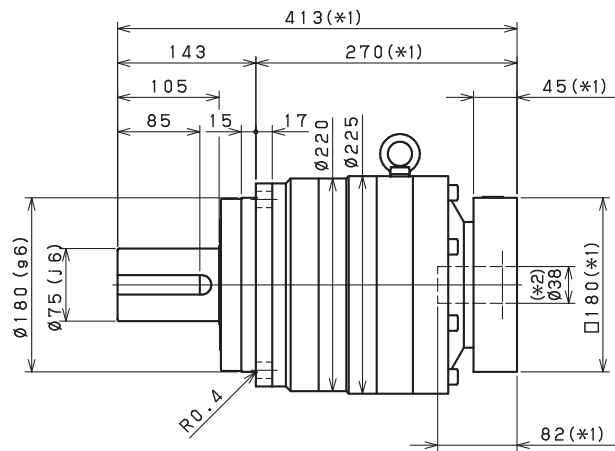
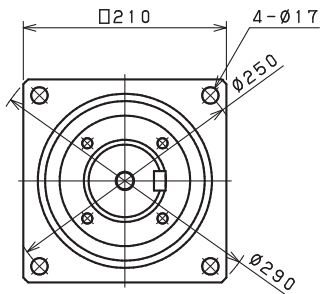
Input shaft bore  $\leq \phi 65$



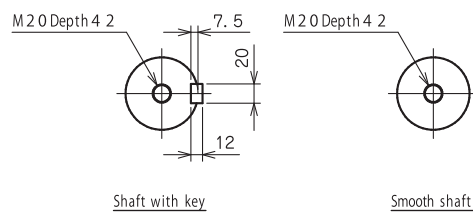
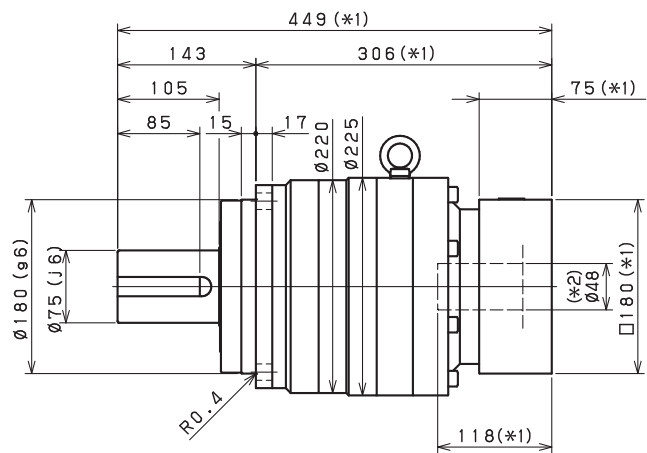
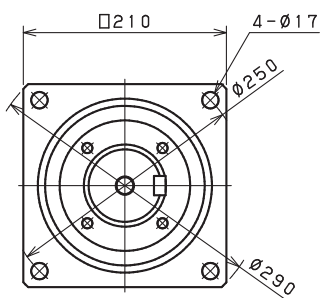
- \*1) Length will vary depending on motor.
- \*2) Bushing will be inserted to adapt to motor shaft

## VRS-210 – 2-Stage Dimensions

Input shaft bore  $\leq \phi 38$



Input shaft bore  $\leq \phi 48$

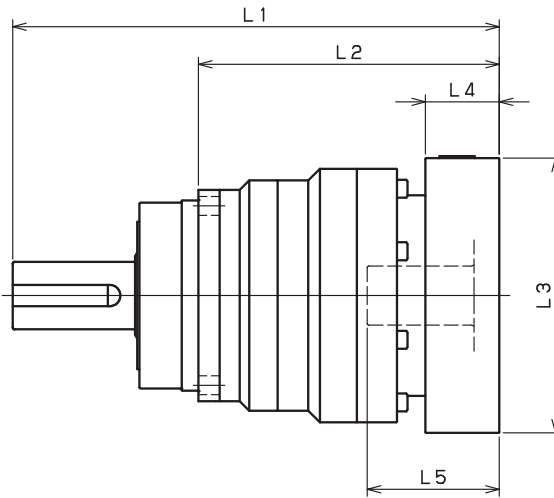


\*1) Length will vary depending on motor.

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

# VRS-SERIES Inline 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	--	--	--	--	--	--
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

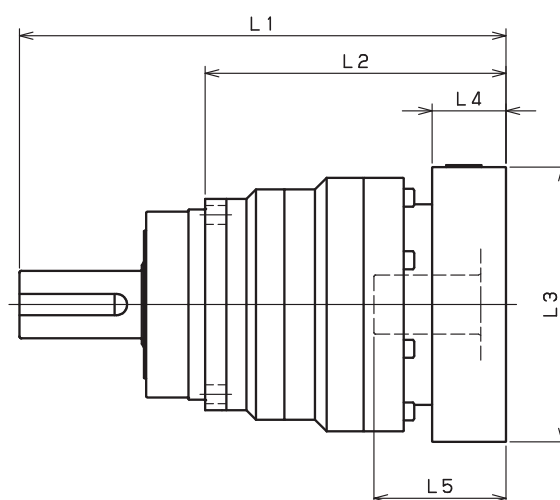
\*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 422.

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 NIDEC-SHIMPO.

## 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)	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
	PA	449	374	306	□280	75	118
VRS-210-□-□-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 422.

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 NIDEC-SHIMPO.

# VRS-SERIES Inline shaft

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 3$									
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 <sup>2</sup> ]	--	40.000	43.000	39.000	39.000	41.000	35.000	38.000	35.000		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	92									
Torsional Rigidity	[Nm/arc-min]	*12	550									
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$									
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

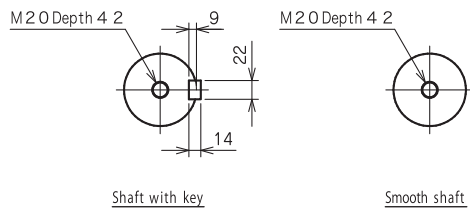
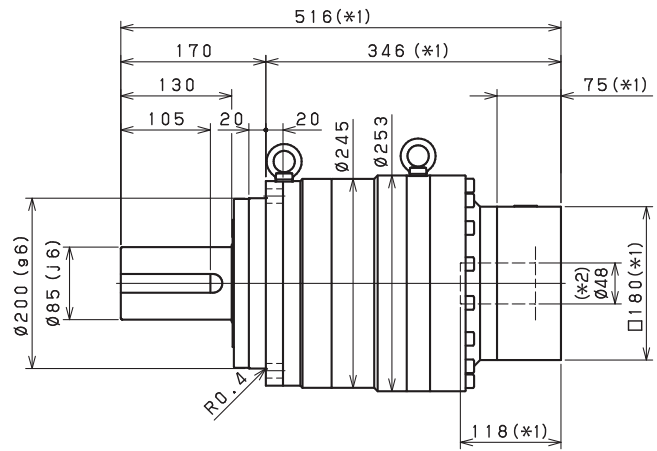
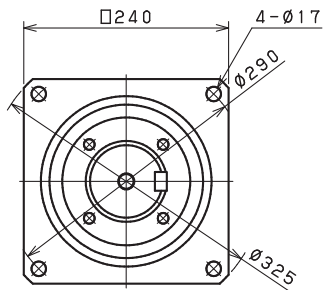
Frame Size	240										
Stage	2-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	1600	2400	2400	2400	2400	1600	1600		
Maximum Acceleration Torque	[Nm]	*2	2100	3700	3700	3700	2700	2100	1800		
Emergency Stop Torque	[Nm]	*3	6000	8000	8000	8000	8000	6000	6000		
Nominal 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 <sup>2</sup> ]	--	38.000	35.000	35.000	34.000	34.000	34.000	34.000		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	92								
Torsional Rigidity	[Nm/arc-min]	*12	550								
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$								
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 NIDEC-SHIMPO for the testing conditions and environment
- \*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options
- \*15) The weight may vary slightly between models



## VRS-240 – 2-Stage Dimensions

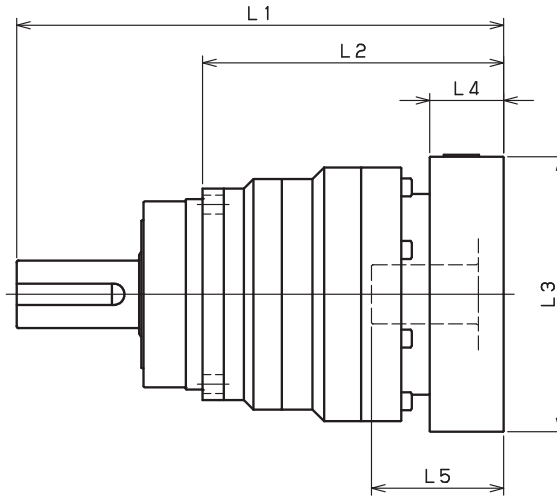
Input shaft bore  $\leq \phi 48$



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

# VRS-SERIES Inline 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

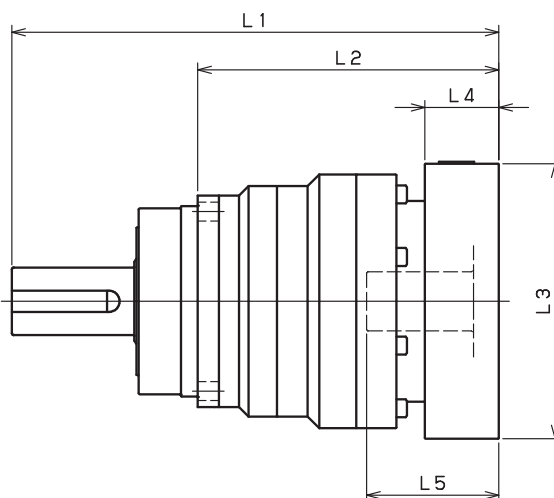
\*1) Single reduction : 1/3~ 1/10

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

For an explanation on the Adapter Flange Code, please turn to page 422.

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 NIDEC-SHIMPO.

## 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 422.

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 NIDEC-SHIMPO.