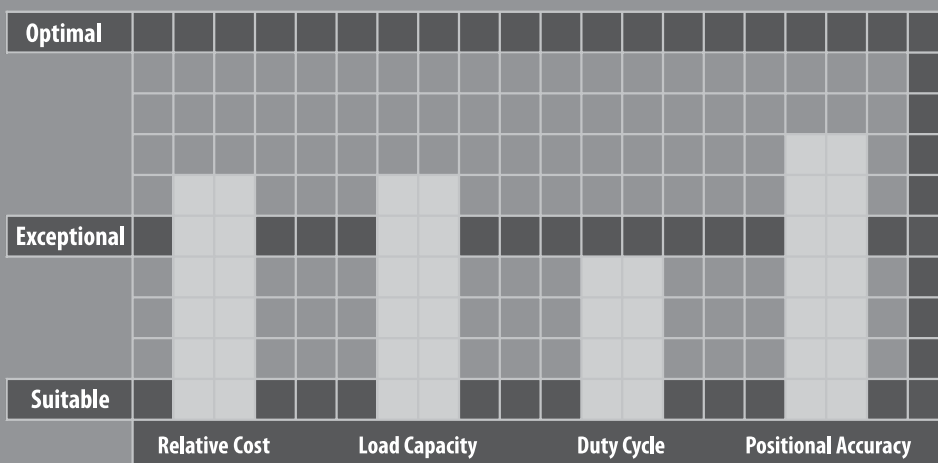
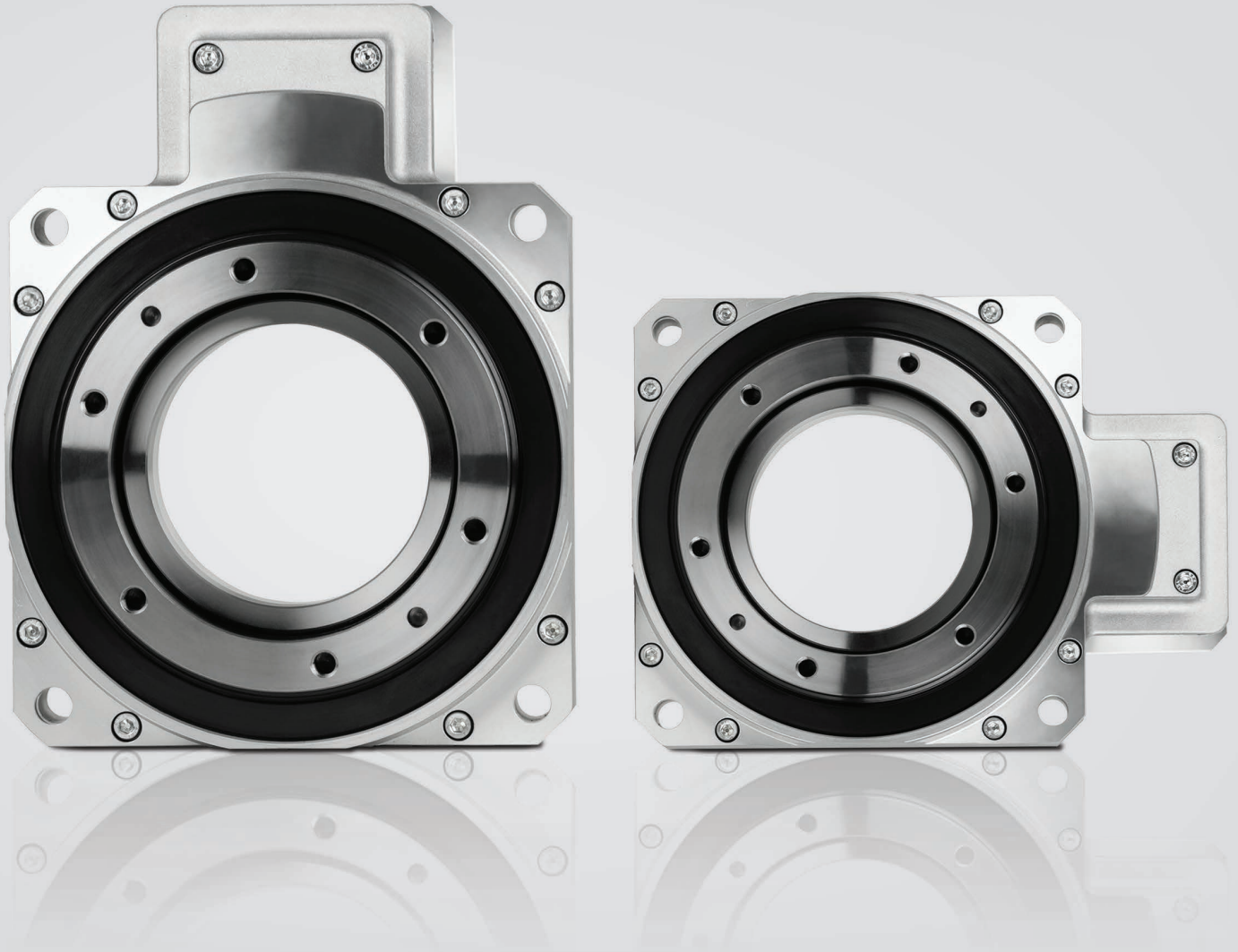


# STH SERIES

The STH is an excellent fit for mid-range index table applications that require high accuracy, flexible mounting and a large hollow shaft. This product sets the standard for rotary positioning performance of large inertia loads at an exceptional value. The STH comes with backlash as low as 2 arc-min and indexing accuracy down to  $\pm 60$  arc-sec. With a large cross roller bearing, the STH can achieve a max tilting moment load capacity of 200Nm and a maximum radial load of 5000N—a perfect match for mid-size steel or aluminum tables as well as end of arm tooling.

The STH utilizes NIDEC-SHIMPO's modular design concept by integrating a VRL070 or EVL070 planetary gearbox at the input section. This allows the STH to achieve reduction ratios from 12:1 to 400:1. Motor mounting is easy with our vast selection of mounting plates. The 85mm hollow shaft provides clearance for wiring, tubing or ball screws to be passed through to effectors, fillers or any other active machinery. Contact us if you need assistance upgrading from legacy mechanical camming devices or pneumatics.



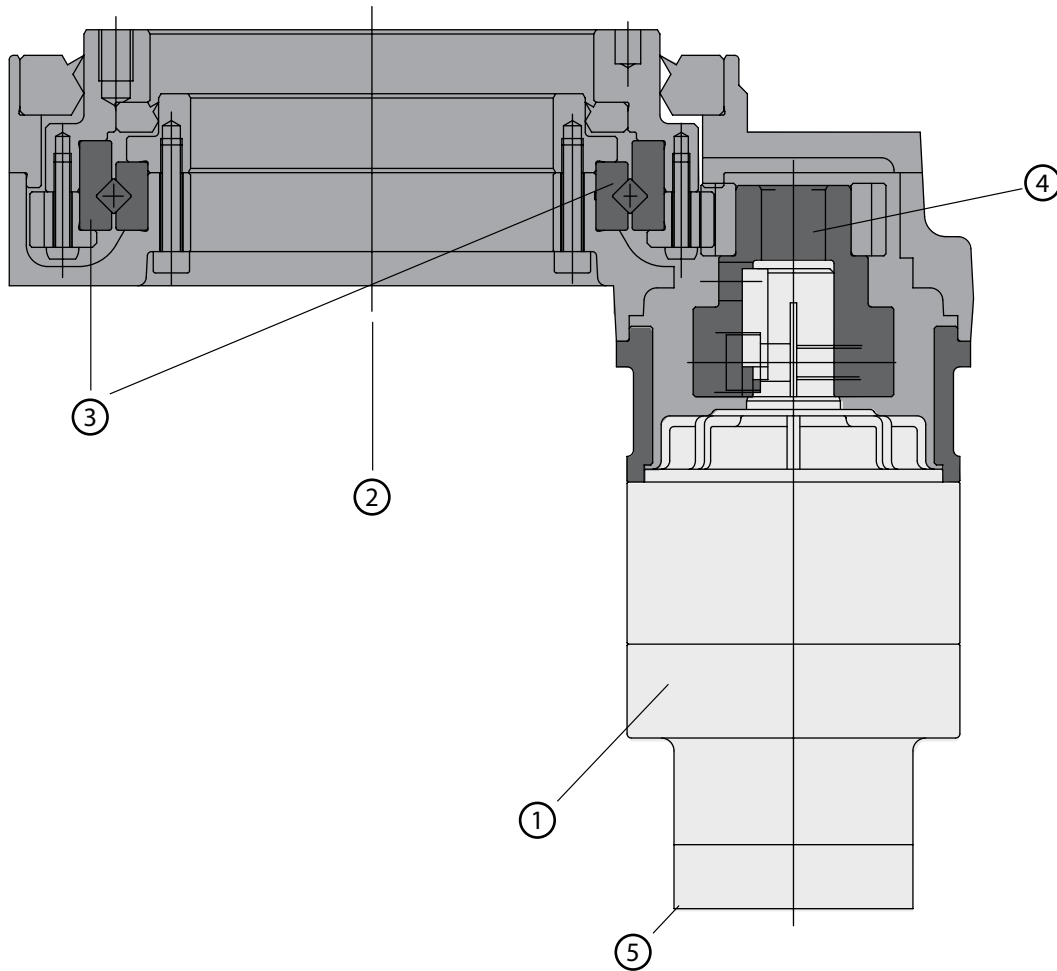


## STH SERIES

- 85mm pass through hole allows pass through of air lines, wiring or other peripheral components
- $\leq 2$  arc-min backlash with  $\pm 60$  arc-sec indexing accuracy
- Reduction ratios from 12:1 up to 400:1
- 5000N radial load capacity, ideal for mid-range index table applications
- Broad range of mounting adapters offer a simple, precise attachment to any motor
- Maintenance-free solution that is lubricated for life. High performance grease allows flexible mounting in any orientation
- Assembled in the USA with immediate delivery

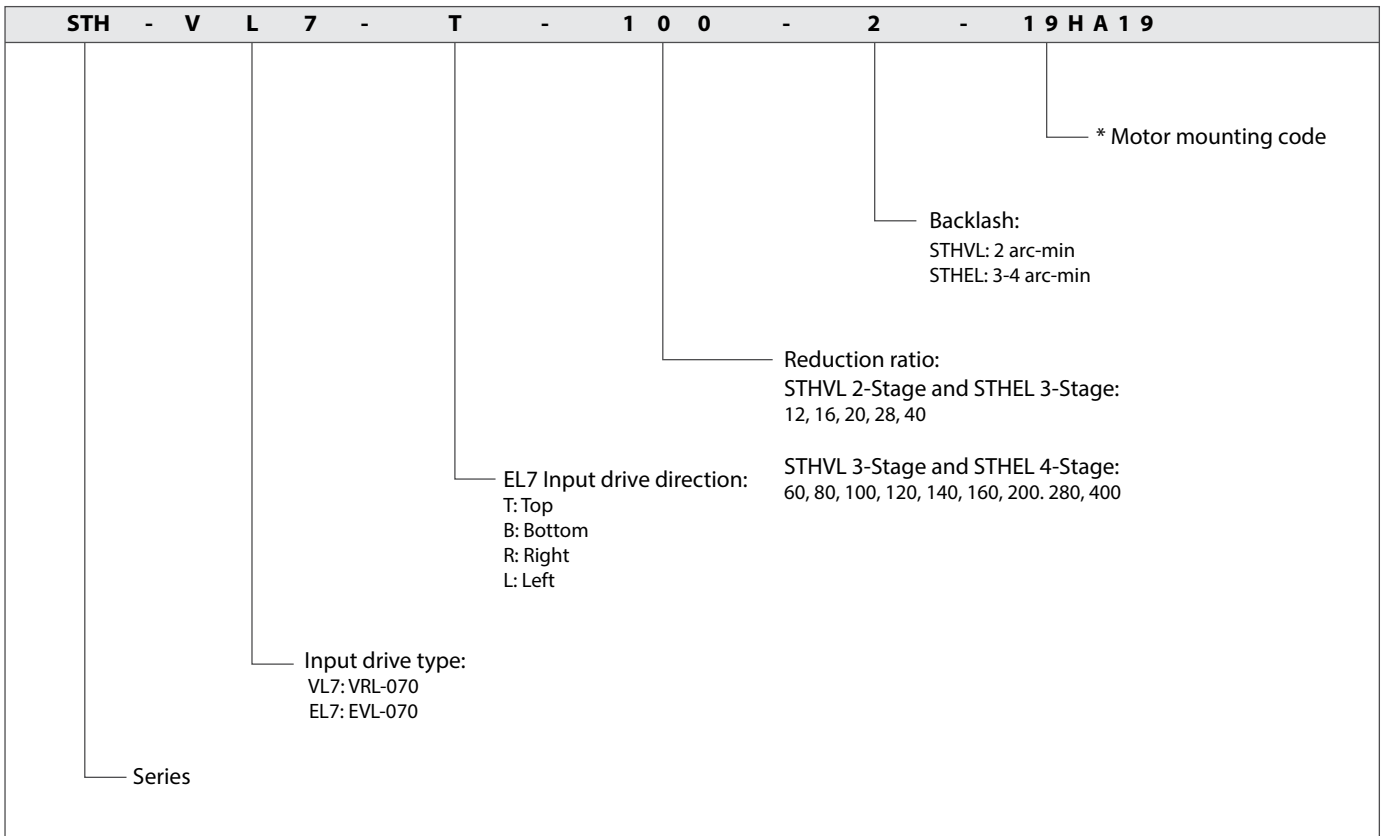
# STH SERIES Hollow Rotary Index Tables

## STH Series Features



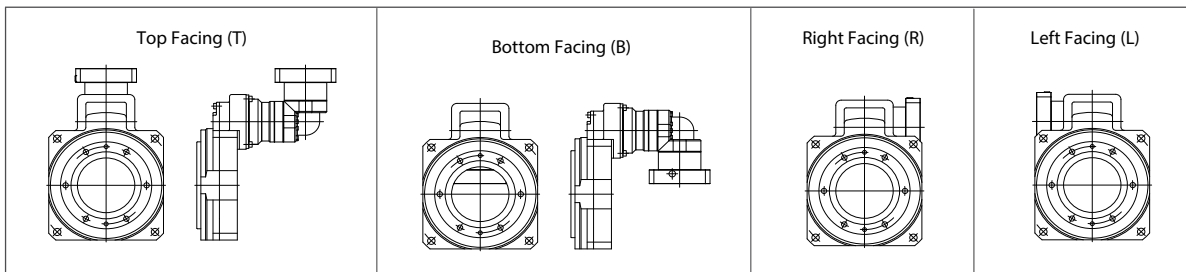
- ① VRL070 or EVL070 input section for ratios up to 400:1
- ② 85 mm hollow bore diameter
- ③ Heavy duty cross-roller bearing
- ④ 4:1 output gear
- ⑤ Optimized motor mounting system with active centering on motor pilot guarantees alignment of motor

## STH Series Model Code



\* Motor mounting code varies depending on the motor. Contact us to configure the code.

### Input Drive Direction (EL7 Detail)



# STH SERIES Hollow Rotary Index Tables

## STHVL7 2-Stage & 3-Stage Specifications

Frame Size	STHVL7								
Stage	Units	Notes	2-Stage					3-Stage	
Ratio	--	*1	12:1	16:1	20:1	28:1	40:1	60:1	80:1
Nominal Torque	[Nm]	*2	65	85	85	85	68	68	85
Maximum Acceleration Torque	[Nm]	--	126	170	170	170	133	133	170
Emergency Stop Torque	[Nm]	--	240	240	240	240	240	240	240
Nominal Input Speed	[rpm]	--	3000					3000	
Maximum Input Speed	[rpm]	--	6000					6000	
Maximum Axial Load	[N]	--	4000					4000	
Maximum Radial Load	[N]	--	5000					5000	
Maximum Tilting Moment Load	[Nm]	--	200					200	
Maximum Surface Runout	[mm]	--	0.070					0.070	
Moment of Inertia ( $\leq \emptyset 8$ )	[kgcm <sup>2</sup> ]	*3	1.109	0.640	0.426	0.240	0.143	0.094	0.076
Moment of Inertia ( $\leq \emptyset 14$ )	[kgcm <sup>2</sup> ]	*3	1.189	0.715	0.509	0.318	0.227	0.179	0.152
Moment of Inertia ( $\leq \emptyset 19$ )	[kgcm <sup>2</sup> ]	*3	1.399	0.925	0.709	0.528	0.427	0.389	0.372
Efficiency	[%]	--	86	86	90	90	90	86	86
Maximum Torsional Backlash	[arc-min]	--	$\leq 2$					$\leq 2$	
Accuracy	[arc-sec]	--	$\pm 60$					$\pm 60$	
Torsional Stiffness	[Nm/arc-min]	--	7.6					7.6	
Noise Level	[dB]	--	72	72	65	65	65	65	65
Maximum Ambient Temperature	$^{\circ}\text{C}$	--	0-40					0-40	
Permitted Housing Temperature	$^{\circ}\text{C}$	--	90					90	
Protection Class	--	*4	IP54 (IP65)					IP54 (IP65)	
Weight	[kg]	--	7.6					7.8	

\*1) Contact NIDEC-SHIMPO for special ratios

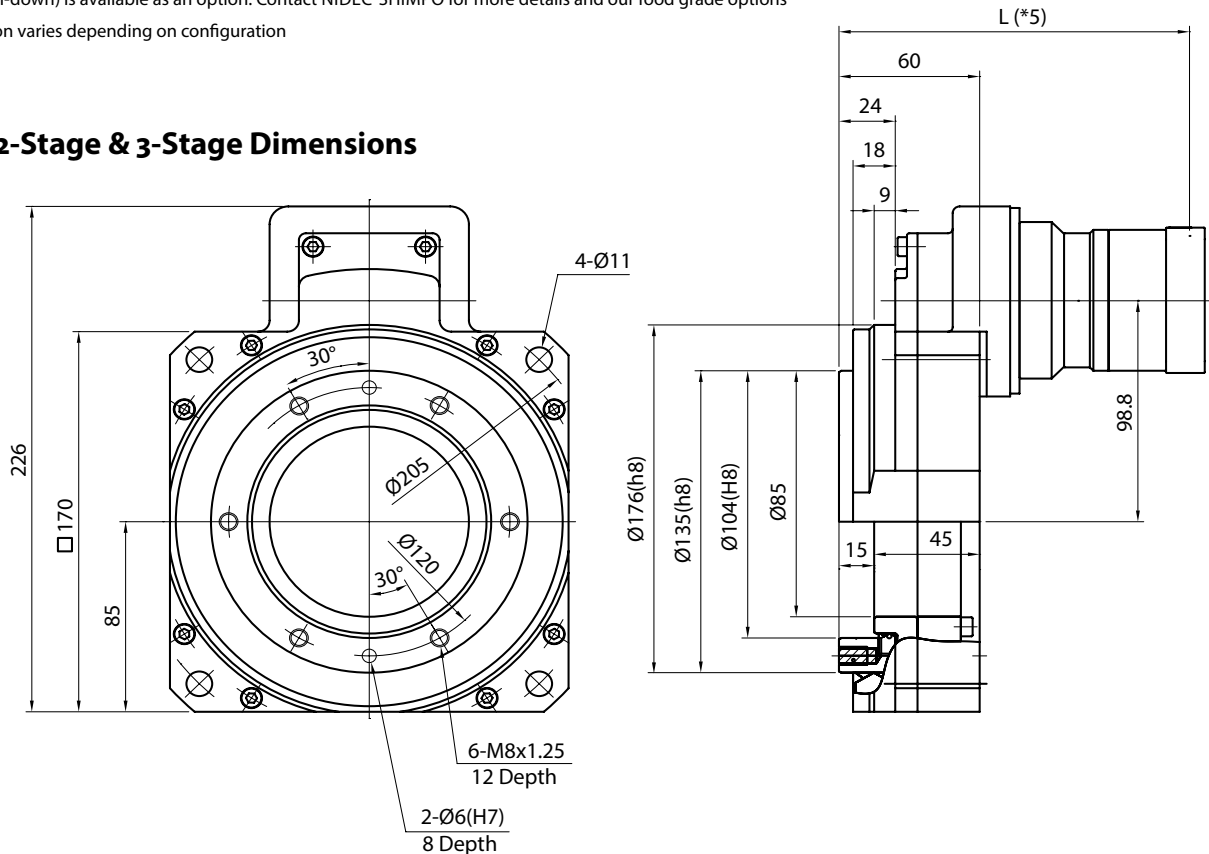
\*2) At nominal input speed, service life is 20,000 hours

\*3) Measured at input shaft

\*4) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

\*5) L dimension varies depending on configuration

## STHVL7 2-Stage & 3-Stage Dimensions



## STHVL7 3-Stage Specifications

Frame Size	STHVL7								
Stage	Units	Notes	3-Stage						
Ratio	--	*1	100:1	120:1	140:1	160:1	200:1	280:1	400:1
Nominal Torque	[Nm]	*2	85	68	85	85	85	85	68
Maximum Acceleration Torque	[Nm]	--	170	133	170	170	170	170	133
Emergency Stop Torque	[Nm]	--	240	240	240	240	240	240	240
Nominal Input Speed	[rpm]	--	3000						
Maximum Input Speed	[rpm]	--	6000						
Maximum Axial Load	[N]	--	4000						
Maximum Radial Load	[N]	--	5000						
Maximum Tilting Moment Load	[Nm]	--	200						
Maximum Surface Runout	[mm]	--	0.070						
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	*3	0.067	0.059	0.060	0.054	0.052	0.051	0.050
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	*3	0.144	0.140	0.137	0.135	0.133	0.132	0.131
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	*3	0.364	0.350	0.357	0.345	0.343	0.342	0.341
Efficiency	[%]	--	86	86	86	86	86	86	86
Maximum Torsional Backlash	[arc-min]	--	$\leq 2$						
Accuracy	[arc-sec]	--	$\pm 60$						
Torsional Stiffness	[Nm/arc-min]	--	7.6						
Noise Level	[dB]	--	65	65	65	65	65	65	65
Maximum Ambient Temperature	$^{\circ}\text{C}$	--	0-40						
Permitted Housing Temperature	$^{\circ}\text{C}$	--	90						
Protection Class	--	*4	IP54 (IP65)						
Weight	[kg]	--	7.8						

\*1) Contact NIDEC-SHIMPO for special ratios

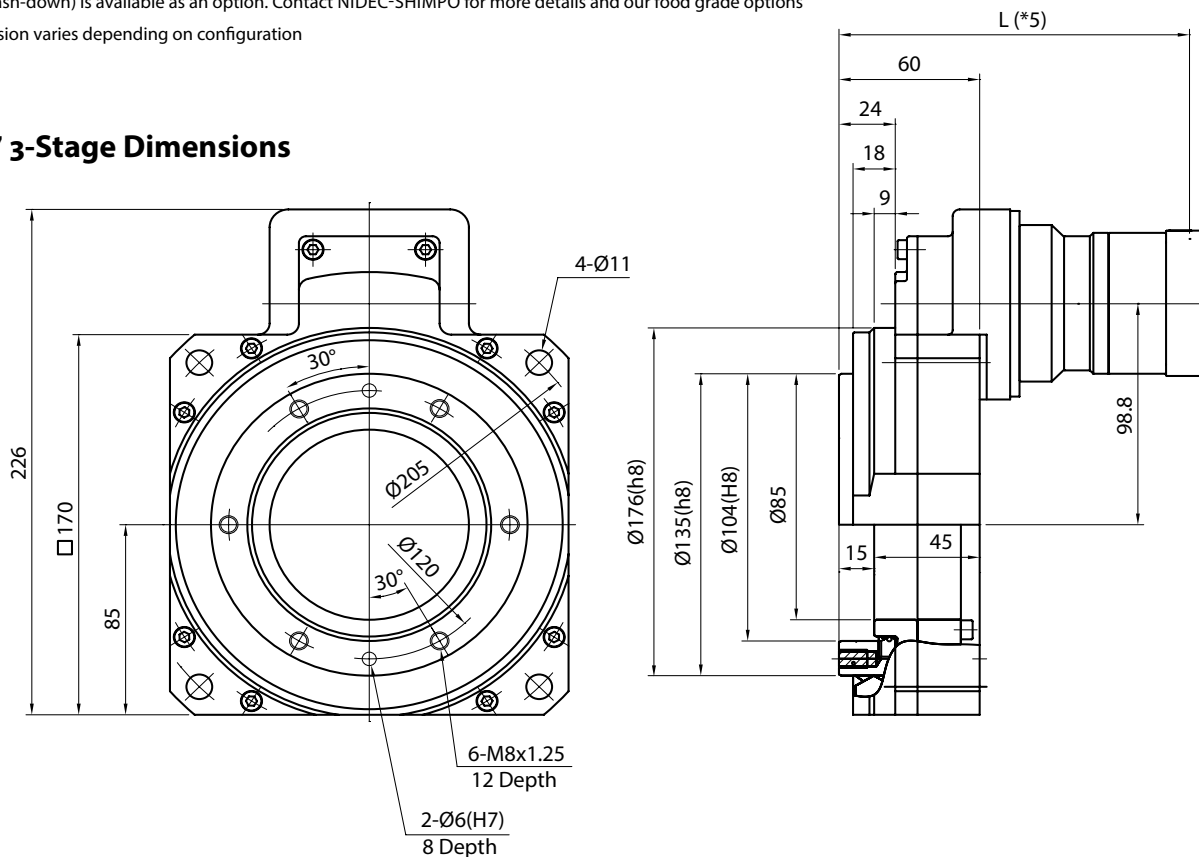
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\*3) Measured at input shaft

\*4) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

\*5) L dimension varies depending on configuration

## STHVL7 3-Stage Dimensions



# STH SERIES Hollow Rotary Index Tables

## STHEL7 2-Stage & 3-Stage Specifications

Frame Size	STHEL7								
Stage	Units	Notes	2-Stage					3-Stage	
Ratio	--	*1	12:1	16:1	20:1	28:1	40:1	60:1	80:1
Nominal Torque	[Nm]	*2	43	58	84	85	61	61	85
Maximum Acceleration Torque	[Nm]	--	86	115	152	170	122	122	170
Emergency Stop Torque	[Nm]	--	180	234	240	240	204	240	240
Nominal Input Speed	[rpm]	--	3000					3000	
Maximum Input Speed	[rpm]	--	6000					6000	
Maximum Axial Load	[N]	--	4000					4000	
Maximum Radial Load	[N]	--	5000					5000	
Maximum Tilting Moment Load	[Nm]	--	200					200	
Maximum Surface Runout	[mm]	--	0.070					0.070	
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	*3	1.280	0.811	0.597	0.412	0.314	0.112	0.093
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	*3	1.355	0.886	0.672	0.487	0.389	0.157	0.138
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	*3	1.544	1.075	0.862	0.676	0.578	--	--
Efficiency	[%]	--	84	84	88	88	88	84	84
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$					$\leq 4$	
Accuracy	[arc-sec]	--	$\pm 60$					$\pm 60$	
Torsional Stiffness	[Nm/arc-min]	--	7.6					7.6	
Noise Level	[dB]	--	72	72	65	65	65	65	65
Maximum Ambient Temperature	$^{\circ}\text{C}$	--	0-40					0-40	
Permitted Housing Temperature	$^{\circ}\text{C}$	--	90					90	
Protection Class	--	*4	IP54 (IP65)					IP54 (IP65)	
Weight	[kg]	--	8.0					8.2	

\*1) Contact NIDEC-SHIMPO for special ratios

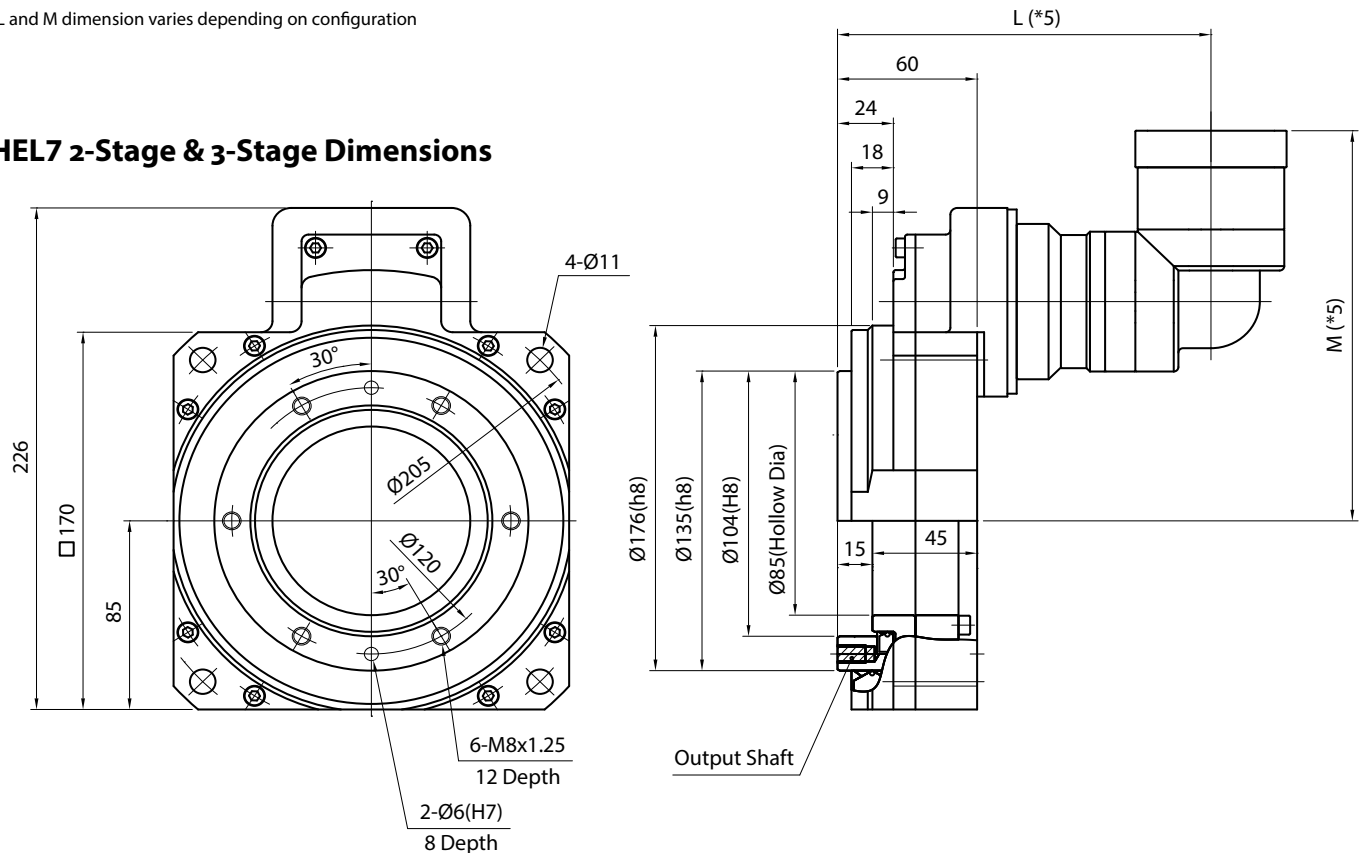
\*2) At nominal input speed, service life is 20,000 hours

\*3) Measured at input shaft

\*4) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

\*5) L and M dimension varies depending on configuration

## STHEL7 2-Stage & 3-Stage Dimensions



## STHEL7 3-Stage Specifications

Frame Size	STHEL7								
Stage	Units	Notes	3-Stage						
<b>Ratio</b>	--	*1	100:1	120:1	140:1	160:1	200:1	280:1	400:1
Nominal Torque	[Nm]	*2	85	61	85	85	85	85	61
Maximum Acceleration Torque	[Nm]	--	170	122	170	170	170	170	122
Emergency Stop Torque	[Nm]	--	240	240	240	240	240	240	240
Nominal Input Speed	[rpm]	--	3000						
Maximum Input Speed	[rpm]	--	6000						
Maximum Axial Load	[N]	--	4000						
Maximum Radial Load	[N]	--	5000						
Maximum Tilting Moment Load	[Nm]	--	200						
Maximum Surface Runout	[mm]	--	0.070						
Moment of Inertia (≤Ø 8)	[kgcm <sup>2</sup> ]	*3	0.085	0.072	0.077	0.066	0.064	0.063	0.062
Moment of Inertia (≤Ø 14)	[kgcm <sup>2</sup> ]	*3	0.129	0.116	0.122	0.111	0.108	0.106	0.106
Moment of Inertia (≤Ø 19)	[kgcm <sup>2</sup> ]	*3	--	--	--	--	--	--	--
Efficiency	[%]	--	84	84	84	84	84	84	84
Maximum Torsional Backlash	[arc-min]	--	≤4						
Accuracy	[arc-sec]	--	±60						
Torsional Stiffness	[Nm/arc-min]	--	7.6						
Noise Level	[dB]	--	65	65	65	65	65	65	65
Maximum Ambient Temperature	°C	--	0-40						
Permitted Housing Temperature	°C	--	90						
Protection Class	--	*4	IP54 (IP65)						
Weight	[kg]	--	8.2						

\*1) Contact NIDEC-SHIMPO for special ratios

\*2) At nominal input speed, service life is 20,000 hours

\*3) Measured at input shaft

\*4) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details and our food grade options

\*5) L and M dimension varies depending on configuration

## STHEL7 3-Stage Dimensions

