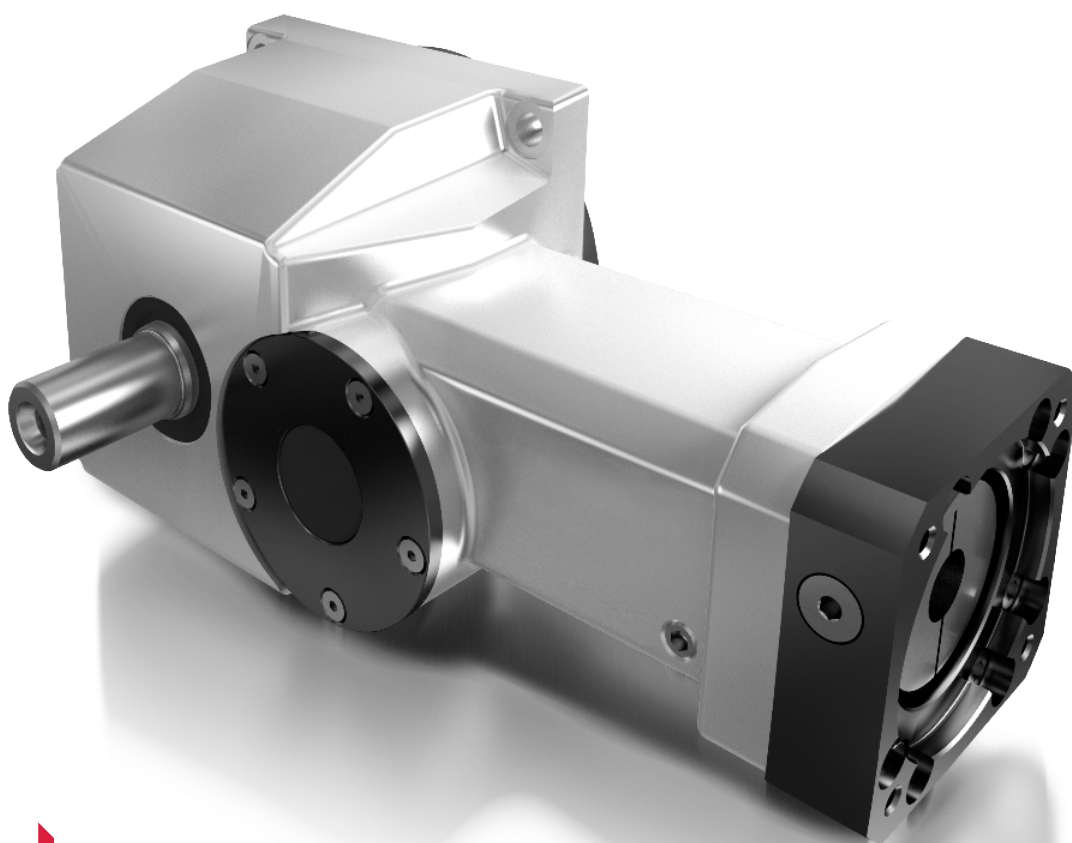


# Серворедукторы гипоидные EPPINGER серии SHT

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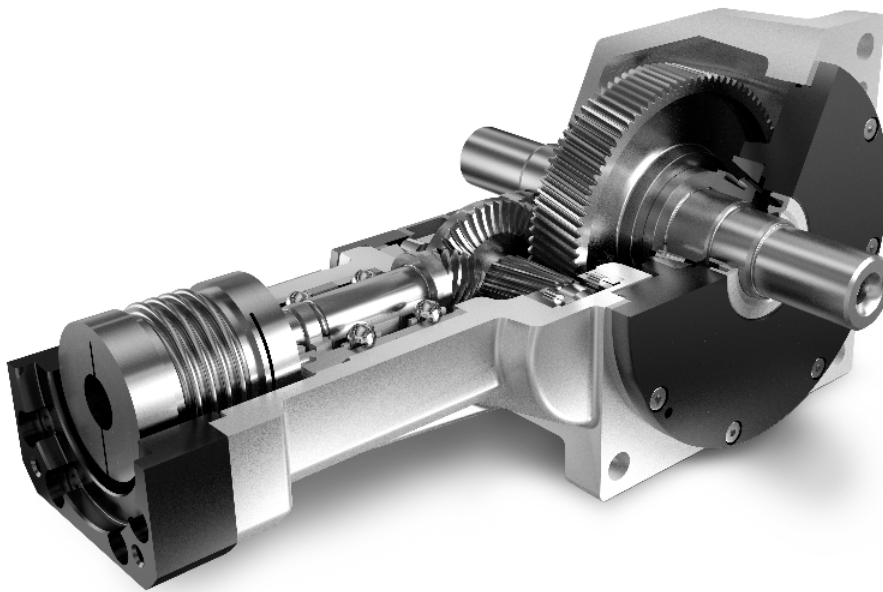
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# EPPINGER Hypoid – Spur Gearbox

The two-stage SHT-hypoid spur gearbox is characterized by its compact design as well as its high power density. The hypoid bevel gears are designed for high load capacity and very smooth operation. In combination with a variable spur gear stage high overall gear ratios are achievable with - compared to worm gearboxes - outstanding efficiency ratios. Very low torsional backlash at the output shaft is realized by fine classification of the spur

gear stage. Due to the use of case hardened steel in both gear stages the torsional backlash values will remain constant during the lifetime. All common servo motors can be easily installed with a flexible motor flange and a coupling system. Centering flange on the output side and mounting holes in the housing edges ensure a simple and stable installation of the gearbox.

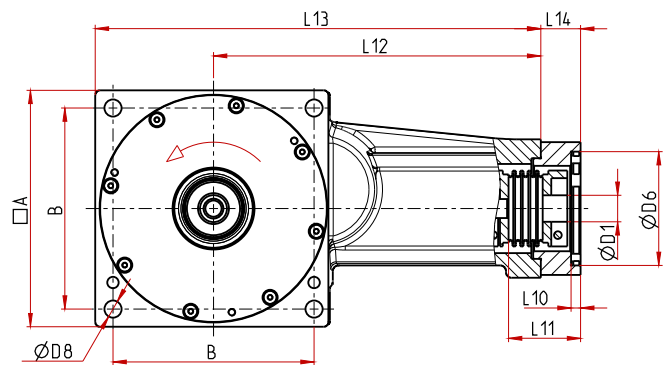
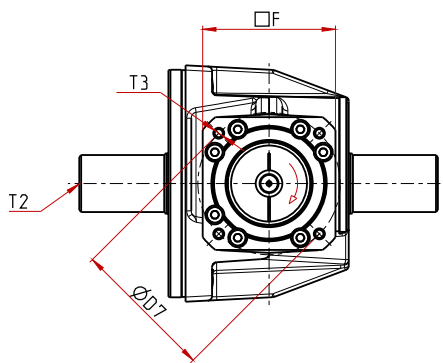
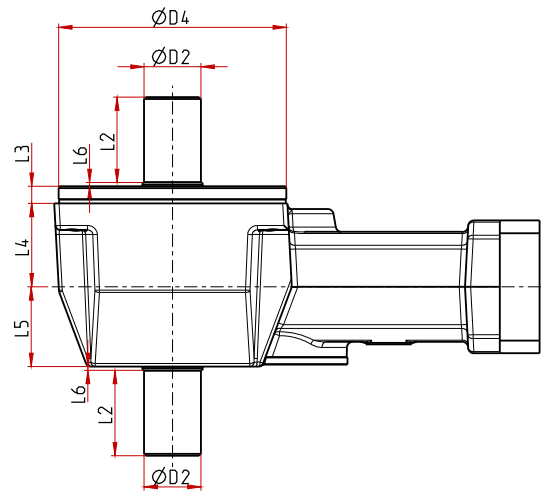
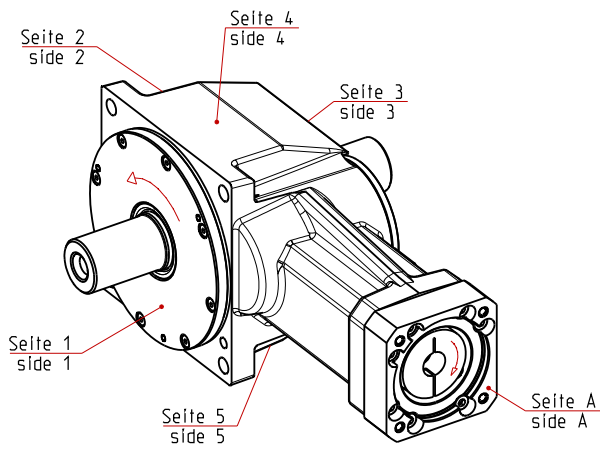


## FEATURES AND BENEFITS OF THE SHT HYPOID – SPUR GEARBOX SERIES

- High efficiency of up to 96%
- Two-stage gearbox with high ratios up to 90:1
- Designed for dynamic servo drive solutions
- Constant backlash over the lifetime
- Mirror inverted installation possible
- Low weight
- Compact and robust design through one-piece casted aluminium housing
- Motor connection with flexible motor flange and coupling system
- Solid and hollow shaft version
- Lifetime lubrication
- Low torsional backlash  $\leq 1$  arcmin (optional)

Our product range includes **bevel-, hypoid-, planetary-, cycloid-, special customized gearboxes and high precision gear technology**. The **compact mono-bloc design** makes our solutions **unique**.

# Solid Shaft Design



## Dimensions (in mm)

	SHT100	SHT120	SHT150
A	103	124	150
B	85	106	131
$\text{Ø D2}$	22 k6	30 k6	35 k6
$\text{Ø D4}$	98 g7	120 g7	150 g7
$\text{Ø D8}$	6,6	9	11
L2	35	45	55
L3	8	9	11
L4	34	44	49
L5	38	42	46
L6	2	2	2
L12	148	173	209
L13	200	235	284
T2*	M6	M10	M10

\* Centering bore in the shaft end acc. to form DS, DIN 332

## Performance data

	Abbreviation	Unit	SHT100					SHT120					SHT150				
Ratio	i		20:1	30:1	45:1	60:1	90:1	20:1	30:1	45:1	60:1	90:1	20:1	30:1	45:1	60:1	90:1
Rated output torque	T <sub>2N</sub>	Nm	90	80	80	70	55	155	140	130	130	80	250	225	200	200	140
Max. acceleration torque <sup>1</sup>	T <sub>2B</sub>	Nm	135	120	120	105	83	233	210	195	195	120	375	338	300	300	210
Emergency stop torque <sup>2</sup>	T <sub>2Not</sub>	Nm	180	160	160	140	110	310	280	260	260	160	500	450	400	400	280
Rated input speed	n <sub>1N</sub>	rpm	3400	3600	3600	4000	4000	3400	3600	3600	4000	4000	3400	3600	3600	4000	4000
Max. input speed	n <sub>1max</sub>	rpm	8000					8000					8000				
Torsional backlash - Standard <sup>3</sup>		arcmin	< 6					< 6					< 6				
Torsional backlash - Minimized <sup>3</sup>		arcmin	≤ 1					≤ 1					≤ 1				
Max. permissible radial load <sup>4</sup>	F <sub>R2max</sub>	N	3.500					5.000					7.200				
Max. permissible axial load	F <sub>A2max</sub>	N	2.500					3.500					5.000				
Efficiency at rated load	η	%	90 - 96														
Operating noise	L <sub>pa</sub>	db(A)	< 66					< 68					<68				
Service life	L <sub>h</sub>	h	> 20.000														
Lubrication			Synthetic oil, ISO VG 150														
Operating temperature		°C	-20 to 90														
Weight <sup>5</sup>	m	kg	3,7					6					11				
Mass moment of inertia	J <sub>1</sub>	kgcm <sup>2</sup>	on request														
Torsional stiffness	C <sub>t2</sub>	Nm/arcmin	on request														

<sup>1</sup> max. 1000 cycles per hour

<sup>2</sup> max. 1000 permissible short overload peaks during service life of gear box

<sup>3</sup> referred to the output shaft

<sup>4</sup> measured at the tapered shaft centre

<sup>5</sup> with motor flange, coupling and shaft S13

<sup>6</sup> referred to the input shaft

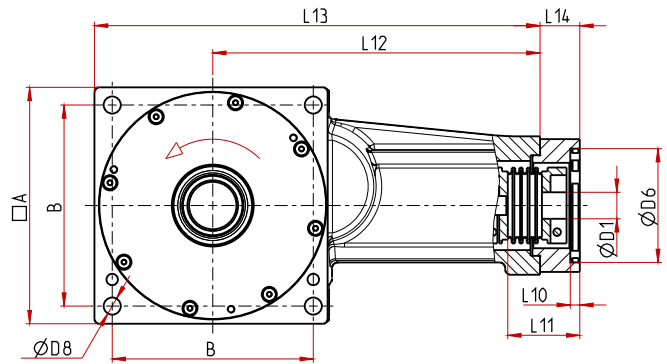
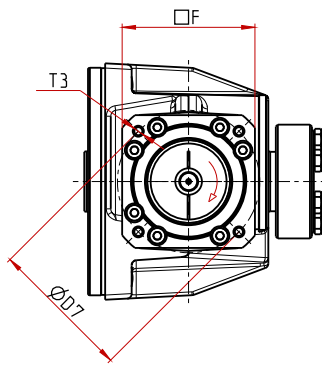
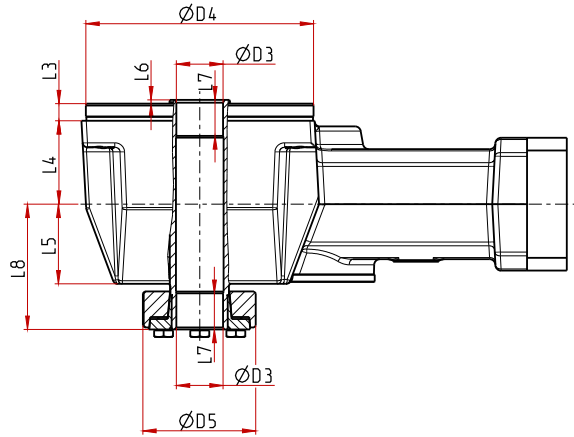
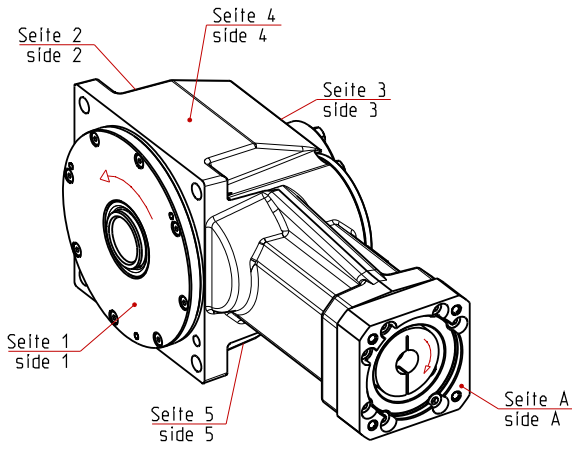
## Motor connection through motor flange system

	SHT100			SHT120				SHT150			
□F <sup>1</sup>	65 - 90			70 - 115				80 - 140			
Ø D1 <sup>1</sup>	9	11	14	9	11	14	19	11	14	19	24
Ø D6	motor-specific			motor-specific				motor-specific			
Ø D7	motor-specific			motor-specific				motor-specific			
L10	motor-specific			motor-specific				motor-specific			
L11	25	30	35	25	30	35	40	30	35	40	45
L14 <sup>2</sup>	motor-specific			motor-specific				motor-specific			
T3	motor-specific			motor-specific				motor-specific			

<sup>1</sup> other dimensions on request

<sup>2</sup> exact dimensions on gearbox datasheet

# Hollow Shaft Design



## Dimensions (in mm)

	SHT100	SHT120	SHT150
□A	103	124	150
B	85	106	131
Ø D3	20 H7	25 H7	30 H7
Ø D4	98 g7	120 g7	150 g7
Ø D5	50	60	72
Ø D8	6,6	9	11
L3	8	9	11
L4	34	44	49
L5	38	42	46
L6	2	2	2
L7	17	19	21
L8	59	66	70
L12	148	173	209
L13	200	235	284

\* Centering bore in the shaft end acc. to form DS, DIN 332

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