HENSCHEL

The Key Component for highest Reliability in modern Extrusion

Railway Gears | **Extrusion Gears** | Worm Gears | Special Gears | Melt Pumps | Couplings | Service

DURUMAX®

Reliable | Intelligent | Efficient

Quality and Reliability pays off

Henschel developes the optimal solution wherever power is efficiently and safely transmitted. This applies to vehicles, plants and machinery, that require high reliability and availability. We provide perfect harmony within the entire system guaranteeing a safe operation with minimal maintenance and high efficiency.

Henschel was founded in 1810 in Kassel. With a high level expertise in the field of drive technology, Henschel has developed a worldwide reputation excelling in its high quality. In many countries today, locomotives and lorrys with the Henschel star are in operation. This is symbolic of a know-how that is very familiar in the entire power train industry today.

On this base we developed our Extruder gearboxes – the core elements of our range. We develop and deliver modern, state-of-the-art Extruder gearboxes for highest output and strongest torque rates.

Committed to this tradition we develop solutions.

Reliable

Henschel services and products have a reputation for over 200 years of being very reliable. We develop systems that have a high operational reliability and are able to cope with unpredictable requirements. Safety and stability in all processes and procedures are a major feature in cooperation with our customers.

Intelligence

Henschel with his German state of the art engineering applies its best knowledge in its core markets. The validity of this knowledge is employed daily to expand and share. Based on this knowledge, we design new solutions, securing our competitive edge.

Efficient

In the operation, engineering, manufacturing and service, we are as efficient as our products. Highest efficiency, low maintenance frequencies and high safety provide excellent products.

With more than 50 Years of Experience, we look back on a long and successful Tradition of manufacturing Extruder Gearboxes

The DURUMAX® series stands for innovative extrusion gear technology at the highest level and with the highest quality. Intensive research, development and testing, as well as optimal quality control are the guarantee for the high performance of the Extruder gear in a compact design. We offer trend setting Extruder gearbox concepts which meet the daily high demands of the end users, not only in terms of output.

For extrusion lines, the drive unit consists of an essential machine component representing the highest quality and fulfilling all requirements. Under these conditions, Henschel produces high-quality, high-performance single-screw and twin screw Extruder drives.

Take advantage of the following benefits:

- Compact design with high performance through the use of high-strength steels
- Optimal smoothness and quietness by ground helical gears and optimized tooth geometry
- Vibration reducing housing construction in cast iron
- High reliability and availability

We have for each output range optimum alternative transmission and drive solutions.

DURUMAX® – TPM 3

Twin Shaft Extruder Gearbox counter-rotating

The DURUMAX® TPM 3 gearbox was the first one designed with the 3-shaft distribution concept and is running in the market for more than 40 years. Nevertheless of its age this design concept still has a wide range of applications.

Examples of areas of application are:

Pipe Extrusion | Profile Extrusion | Granulation

An overview of your advantages:

- The Extruder gearbox consists of the gearbox modules step-down gear, thrust bearing housing, power divider, adapter housing or alternatively tie bars. Each of these modules can be individually modified and interchanged. The gearbox housing modules are made of vibration reducing, thick-walled, noise reducing grey cast iron.
- The power divider with a single helical gear set transfers the torque safely and reliably whilst taking up a minimum of space. This 3-shaft power divider concept has proven its reliability world-wide since more than 40 years.
- The gears are case-hardened, correction-ground and optimised for the highest load capacity. The smoothness of running and low vibration of the Henschel gearboxes are a proof of their quality.
- In opposite of the theoratical calculation we define the safety factors for the gears and the field-experienced application factors for external disturbance variables.
- A combined splash and forced spray lubrication system guarantees optimal lubrication, even in unfavourable environmental conditions, best heat elimination and low losses.

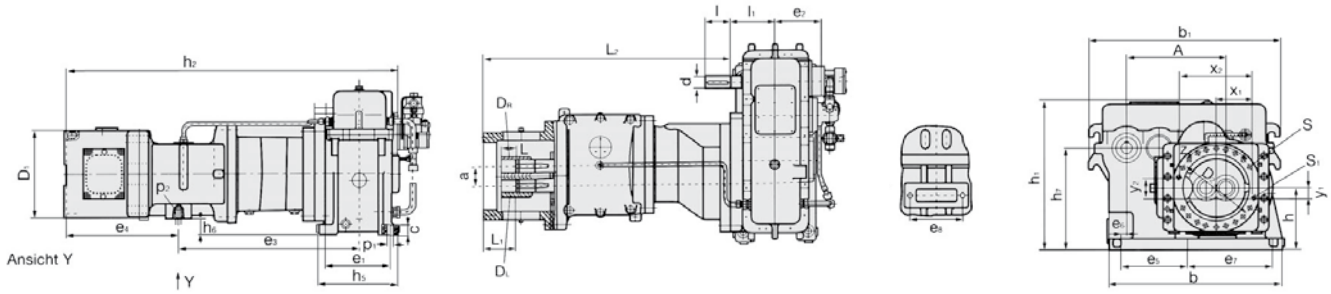
Engineering:

- Reliable design with a step-down gear and power divider with a single helical gear set
- Thrust bearings to pick up the highest thrust forces from the extrusion process
- Direct or V-belt drive
- Torque up to 28.165 Nm and all transmission ratios
- Brand name roller bearings from German manufacturers such as INA, FAG or SKF
- Splash and forced spray lubrication with integrated oil reservoir for emergency running properties
- Integrated lubrication system with flanged oil-pump, oil-filter and pressure switch
- Cylinder and screw connections according to customer requirements
- Paintwork: priming paint

Assembly dimensions

gearbox size	main dimensions mm								
screw-Ø	a	A	h	h_1	h_2	h_5	h_6	h_7	weight kg
TPM 3-90	75,35	382,925	230	ca. 561	1.261	310	60	378	830
TPM 3-107	90	489	275	ca. 670	1.533	408	65	457	1.440
TPM 3-130	110	583	315	ca. 805	1.769	480	75	547	2.220

Mounting



Power rating table

gearbox size	TPM 3-90			TPM 3-107			TPM 3-130		
center distance	75,35 mm			90 mm			110 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
5	4	8.435	214	8	16.000	303	15	28.165	448
10	9	8.435	214	17	16.000	303	29	28.165	448
15	13	8.435	214	25	16.000	303	44	28.165	448
20	18	8.435	214	34	16.000	303	59	28.165	448
25	22	8.435	214	42	16.000	303	73	27.820	448
30	26	8.435	214	50	15.840	303	83	26.340	448
35	31	8.435	214	55	15.120	303	92	25.150	448
40	35	8.240	214	61	14.525	303	101	24.160	448
45	37	7.955	214	66	14.020	303	110	23.320	448
50	40	7.705	211	71	13.585	303	118	22.595	434
55	43	7.485	205	76	13.200	300	126	21.955	422
60	46	7.295	200	81	12.860	292	134	21.390	411
65	48	7.120	195	85	12.555	285	142	20.885	401
70	51	6.965	191	90	12.280	279	150	20.425	392

P_M = motor power [kW]
T_2 = total output torque [Nm] at K_A = 1,25
F_{axW} = allowable axial force per shaft [kN]
n_2 = output speed [min^{-1}]

Information to the tables:

1. Define your specific centre distance in the power rating table.
2. Select the output speed n_2 you require.
3. Look for the required motor power P_M or your output torque T_2 in the selected line.
4. Take the gearbox size you have selected and confirm whether or not the installation dimensions suit your Extruder by referring to the geometry table.
5. If you are not able to find your requirements, our gearbox engineers will design your gearbox and its limiting criteria.

DURUMAX® – TPM 3 DOS-V

Twin Shaft Extruder Gearbox counter-rotating

The DURUMAX®-TPM DOS from Henschel Antriebstechnik offers the Extruder builder high gearbox technology based on latest technical standards, which has been globally successful in hard competition to other products. We have forward-looking Extruder gearbox concepts for you which convert the day-to-day high requirements of the end user concerning output into reality.

Examples of areas of application are:

Pipe Extrusion | Profile Extrusion | Granulation

An overview of your advantages:

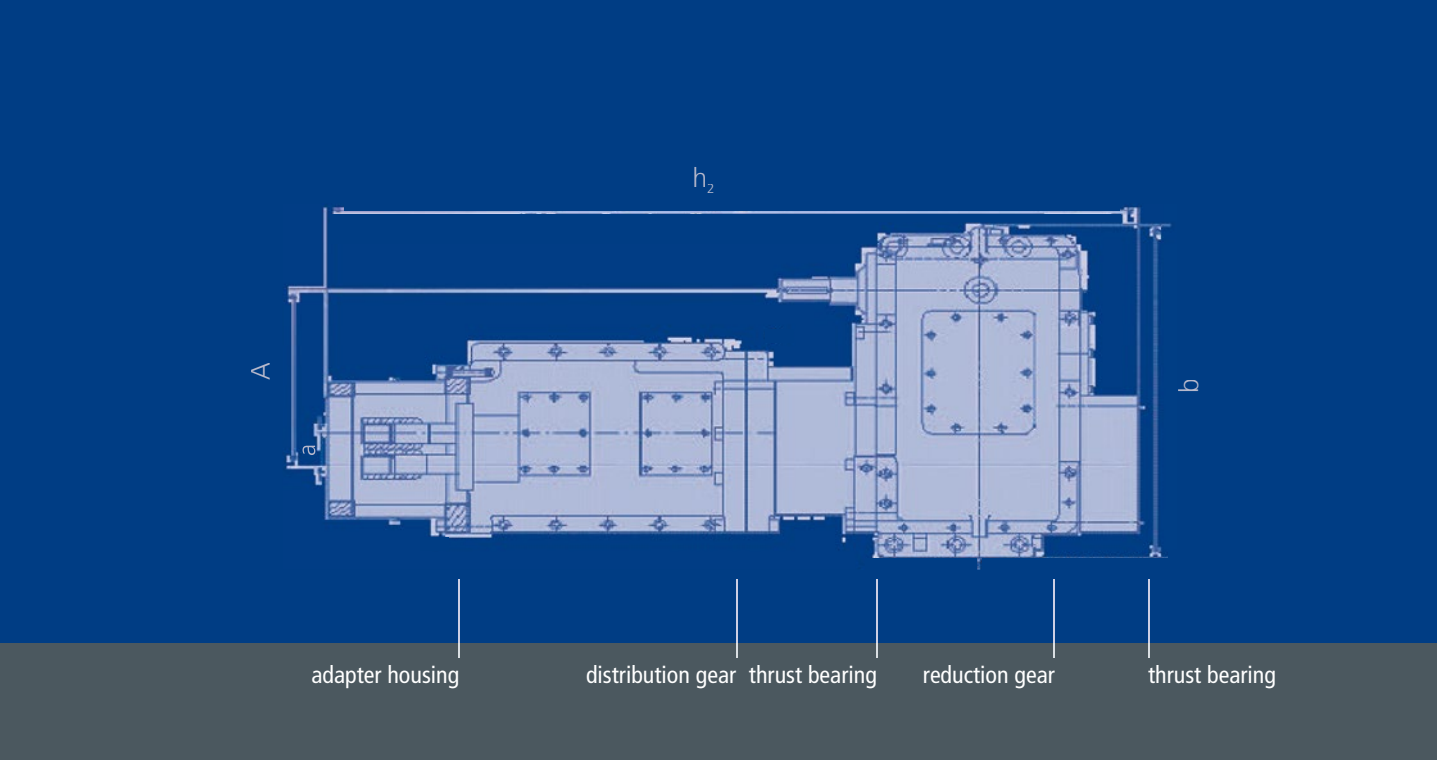
- The Extruder gearbox consists of the gearbox modules step-down gear, thrust bearing housing, power divider, adapter housing or alternatively tie bars. Each of these modules can be individually modified and interchanged. The gearbox housing modules are made of vibration reducing, thick-walled, noise reducing grey cast iron.
- The unique power divider with a double helical gear set transfers the highest torque safely and reliably whilst taking up a minimum of space. High output speed and durability of the bearings are guaranteed. This 3-shaft power divider concept is the most popular concept world-wide in counter-rotating extrusion.
- The gears are case-hardened, correction-ground and optimised for the highest load capacity. The smoothness of running and low vibration of the Henschel gearboxes are a proof of their quality. We supply you with our specially designed topologically corrected gears, which enable exact adjustment of the flank fine geometry to the load and thus guarantees a well-balanced utilisation of material.
- In opposite of the theoratical calculation we define the safety factors for the gears and the field-experienced application factor for external disturbance variables.
- A combined splash and forced spray lubrication system guarantees optimal lubrication, even in unfavourable environmental conditions, best heat elimination and low losses.

Engineering:

- Reliable design with a step-down gear and power divider with a double helical gear set
- Thrust bearings to pick up the highest thrust forces from the extrusion process
- Direct or V-belt drive
- Torque up to 54.000 Nm and all transmission ratios
- Brand name roller bearings from German manufacturers such as INA, FAG or SKF
- Splash and forced spray lubrication with integrated oil reservoir for emergency running properties
- Cooling system with separate lubrication system
- Cylinder and screw connections according to customer requirements
- Paintwork: priming paint

On request we can also supply the following:

- Lubrication system with oil filter
- Monitoring of temperature, pressure or rate of flow
- Level switch
- Monitoring of the screw speed
- Torque measurement
- Load cells to measure back pressure forces
- The gearbox can be engraved with the company name and corporate logo
- Gearbox supplied with final coating



Assembly dimensions

gearbox size	main dimensions mm				
	a	A	h_2	b	weight kg
TPM 2-52 DOS	44	250	1248	539	500
TPM 3-63 DOS-V	54	313,13	1390	615	710
TPM 3-68 DOS-V	55	313,13	1390	615	710
TPM 3-70 DOS	60	313,13	1390	615	710
TPM 3-75 DOS-V*	61	205	1555	560	920
TPM 3-87 DOS-V	74	426,16	1565	790	1.240
TPM 3-92 DOS-V	75,35	426,16	1565	790	1.240
TPM 3-94 DOS-V	76	426,51	1835	790	1.260
TPM 3-100 DOS-V	80,8	712,6	2483	1200	2.500
TPM 3-106 DOS-V	88	489,21	1835	915	2.085
TPM 3-110 DOS-V	90	490	1835	915	2.085
TPM 3-114 DOS-V	93	491,58	2100	915	2.100
TPM 3-130 DOS-V	106	674,9	2706	1420	4.000
TPM 3-135 DOS-V	110	585,55	2320	1080	3.770
TPM 3-140 DOS-V	114	587,63	2610	1080	3.800

* vertical

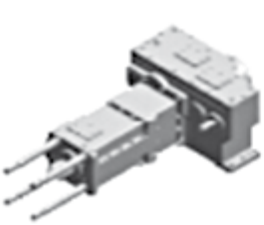
Mounting position and structural shape

The mounting positions are flexible and both horizontal and vertical variations can be selected.
It is to be differentiated between the Z and U form depending on the position of the motor.


mounting positions left


mounting positions right


mounting positions vertical


structural shape U


structural shape Z

DURUMAX® – TPM 3 DOS-V

Twin Shaft Extruder Gearbox counter-rotating

Power rating table

Your specific power data determines the provisional size of the gearbox. The power ratings in the table are designed in such a way that they guarantee sufficient safety factors of the gears in accordance with DIN 3990 with an application factor K_A=1,25. The service life of the bearings is set at a standard of L_h > 20.000 h. Your requirements of the gearbox and their limiting criteria are of course checked by our gearbox engineers so that you receive a product which inspires you.

gearbox size	TPM 2-52-DOS			TPM 3-63-DOS-V			TPM 3-68-DOS-V			TPM 3-70-DOS		
center distance	44 mm			54 mm			55 mm			60 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
5	1	2.000	67	3	5.800	121	3	6.200	139	3	6.200	151
10	2	2.000	67	6	5.800	121	7	6.200	139	7	6.200	151
15	3	2.000	67	10	5.800	121	10	6.200	139	10	6.200	151
20	4	2.000	67	13	5.800	121	14	6.200	139	14	6.200	151
25	5	2.000	67	16	5.800	121	17	6.200	139	17	6.200	151
30	6	2.000	67	19	5.800	121	21	6.200	139	21	6.200	151
35	7	2.000	67	23	5.800	121	24	6.200	139	24	6.200	145
40	8	2.000	67	26	5.800	121	28	6.200	139	28	6.200	140
45	9	2.000	67	28	5.600	121	30	5.985	135	30	5.985	135
50	10	2.000	67	30	5.425	121	32	5.800	131	32	5.800	131
55	11	1.945	67	32	5.270	121	35	5.635	127	35	5.635	127
60	12	1.895	63	35	5.135	121	37	5.490	124	37	5.490	124

gearbox size	TPM 3-75-DOS-V			TPM 3-87-DOS-V			TPM 3-92-DOS-V			TPM 3-94-DOS-V		
center distance	61 mm			74 mm			75,35 mm			76 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
5	5	9.400	168	9	15.200	230	9	15.720	254	10	17.120	264
10	11	9.400	168	17	15.200	230	18	15.720	254	19	17.120	264
15	16	9.400	168	26	15.200	230	26	15.720	254	29	17.120	264
20	21	9.400	168	34	15.200	230	35	15.720	254	38	17.120	264
25	26	9.400	168	43	15.200	230	44	15.720	254	48	17.120	264
30	31	9.305	168	51	15.200	230	53	15.720	254	57	17.120	256
35	35	8.885	168	60	15.200	230	61	15.720	244	67	17.120	244
40	38	8.535	168	68	15.200	230	70	15.720	235	76	17.120	235
45	42	8.240	168	75	14.780	227	78	15.615	226	85	17.005	226
50	45	7.980	168	80	14.320	220	84	15.130	219	92	16.475	219
55	48	7.755	164	86	13.915	213	90	14.700	213	98	16.010	213
60	51	7.555	160	91	13.560	208	96	14.320	208	104	15.595	208

gearbox size	TPM 3-100-DOS			TPM 3-106-DOS-V			TPM 3-110-DOS-V			TPM 3-114-DOS-V		
center distance	80,8 mm			88 mm			90 mm			92,5 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
5	12	21.660	299	13	23.000	334	14	24.800	363	17	30.865	389
10	24	21.660	299	26	23.000	334	28	24.800	363	35	30.865	389
15	36	21.660	299	39	23.000	334	42	24.800	363	52	30.865	389
20	49	21.660	299	52	23.000	334	56	24.800	363	69	30.865	389
25	61	21.660	299	64	23.000	334	69	24.800	363	86	30.865	389
30	73	21.660	299	77	22.765	334	83	24.550	363	104	30.865	372
35	85	21.660	299	85	21.735	334	92	23.440	355	121	30.865	355
40	96	21.365	299	94	20.885	324	101	22.515	341	133	29.655	341
45	104	20.620	299	102	20.155	312	110	21.735	329	144	28.620	329
50	112	19.980	299	109	19.530	303	118	21.000	319	155	27.730	319
55	120	19.415	299	117	18.980	294	126	20.465	310	166	26.950	310
60	127	18.915	299	124	18.490	287	134	19.935	302	177	26.255	302

gearbox size	TPM 3-130-DOS-V			TPM 3-135-DOS-V			TPM 3-140-DOS-V		
center distance	105,7 mm			110 mm			114 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
5	22	39.545	506	26	47.125	546	30	54.005	587
10	44	39.545	506	53	47.125	546	61	54.005	587
15	66	39.545	506	79	47.125	546	91	54.005	587
20	89	39.545	506	106	47.125	546	121	54.005	587
25	111	39.545	506	132	47.125	546	151	54.005	555
30	126	37.440	506	158	47.125	525	182	54.005	525
35	140	35.745	502	176	44.995	502	202	51.560	501
40	154	34.340	482	194	43.225	482	222	49.535	482
45	167	33.145	465	210	41.725	465	241	47.815	465
50	180	32.115	451	226	40.425	451	260	46.325	451
55	192	31.210	438	242	39.285	438	277	45.020	438
60	204	30.405	427	257	38.270	427	295	43.855	427

P_M = motor power [kW]
T_2 = total output torque [Nm] at $K_A = 1,25$
F_{axW} = allowable axial force per shaft [kN]
n_2 = output speed [min^{-1}]

Information to the tables:

1. Define your specific centre distance in the power rating table.
2. Select the output speed n_2 you require.
3. Look for the required motor power P_M or your output torque T_2 in the selected line.
4. Take the gearbox size you have selected and confirm whether or not the installation dimensions suit your Extruder by referring to the geometry table.
5. If you are not able to find your requirements, our gearbox engineers will design your gearbox and its limiting criteria.

DURUMAX® – T1MAX C

Twin Shaft Extruder Gearbox counter-rotating

The new Extruder gearbox T1MAX® is the consistent development of the Extruder gearbox series TPM 3 DOS-V with the proved 3-shaft distribution concept, which is world-wide the most popular concept in counter-rotating extrusion. With the T1MAX® we offer the most efficient concept with the highest performance in its category. **(Torque enhancement of more than 15%)**

Examples of areas of application are:

Pipe Extrusion | Profile Extrusion | Granulation

An overview of your advantages:

- The Extruder gearbox consists of the gearbox modules step-down gear, thrust bearing housing, power divider, adapter housing or alternatively tie bars. Each of these modules can be individually modified and interchanged. The gearbox housing modules are made of vibration reducing, thick-walled, noise reducing grey cast iron.
- The unique power divider with a double helical gear set transfers the highest torque safely and reliably whilst taking up a minimum of space. High output speed and durability of the bearings are guaranteed. This 3-shaft power divider concept is the most popular concept world-wide in counter-rotating extrusion.
- The gears are case-hardened, correction-ground and optimised for the highest load capacity. The smoothness of running and low vibration of the Henschel gearboxes are a proof of their quality. We supply you with our specially designed topologically corrected gears, which enable exact adjustment of the flank fine geometry to the load and thus guarantees a well-balanced utilisation of material.
- In opposite of the theoratical calculation we define the safety factors for the gears and the field-experienced application factor for external disturbance variables.
- A combined splash and forced spray lubrication system guarantees optimal lubrication, even in unfavourable environmental conditions, best heat elimination and low losses.

Engineering:

- Reliable design with a step-down gear and power divider with a double helical gear set
- Thrust bearings to pick up the highest thrust forces from the extrusion process
- Direct or V-belt drive
- Torque up to 135.000 Nm and all transmission ratios
- Brand name roller bearings from German manufacturers such as INA, FAG or SKF
- Splash and forced spray lubrication with integrated oil reservoir for emergency running properties
- Cooling system with separate lubrication system
- Cylinder and screw connections according to customer requirements
- Paintwork: priming paint

On request we can also supply the following:

- Lubrication system with oil filter
- Monitoring of temperature, pressure or rate of flow
- Level switch
- Monitoring of the screw speed
- Torque measurement
- Load cells to measure back pressure forces
- The gearbox can be engraved with the company name and corporate logo
- Gearbox supplied with final coating

Power rating table

Your specific power data determines the provisional size of the gearbox. The power ratings in the table are designed in such a way that they guarantee sufficient safety factors of the gears in accordance with DIN 3990 with an application factor K_A=1,25. The service life of the bearings is set at a standard of L_h > 20.000 h. Your requirements of the gearbox and their limiting criteria are of course checked by our gearbox engineers so that you receive a product which inspires you.

gearbox size	T1MAX 92 C			T1MAX 110 C			T1MAX 125 C			T1MAX 135 C			T1MAX 170 C		
center distance	75,35 mm			90 mm			108 mm			110 mm			146 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
5	10	17.970	254	17	30.252	363	28	50.000	363	32	58.000	363	75	135.000	363
10	20	17.970	254	34	30.252	363	56	50.000	363	65	58.000	363	150	135.000	363
15	30	17.970	254	51	30.25	363	84	50.000	363	97	58.000	363	226	135.000	363
20	40	17.970	254	67	30.252	363	111	50.000	363	129	58.000	363	301	135.000	363
25	50	17.970	254	84	30.252	363	139	50.000	363	162	58.000	363	376	135.000	363
30	60	17.970	254	100	29.947	363	165	49.496	363	192	57.415	363	447	133.639	363
35	70	17.970	244	111	28.593	355	184	47.258	355	214	54.819	355	497	127.597	355
40	80	17.970	235	122	27.465	341	202	45.393	341	235	52.656	341	546	122.561	341
45	89	17.850	226	133	26.513	329	220	43.821	329	255	50.832	329	593	118.316	329
50	96	17.296	219	143	25.617	319	236	42.339	319	274	49.113	319	637	114.315	319
55	103	16.804	213	153	24.964	310	253	41.260	310	293	47.862	310	683	111.402	310
60	109	16.370	208	163	24.317	302	269	40.192	302	312	46.622	302	725	108.517	302
65	116	15.981	203	172	23.738	295	284	39.234	295	330	45.511	295	767	105.931	295
70	122	15.632	198	181	23.220	288	299	38.377	288	347	44.517	288	808	103.618	288

P_M = motor power [kW]
T_2 = total output torque [Nm] at K_A = 1,25
F_{axW} = allowable axial force per shaft [kN]
n_2 = output speed [min^{-1}]

Information to the tables:

1. Define your specific centre distance in the power rating table.
2. Select the output speed n_2 you require.
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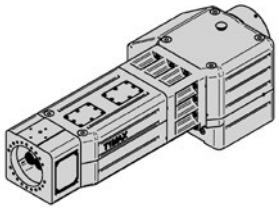
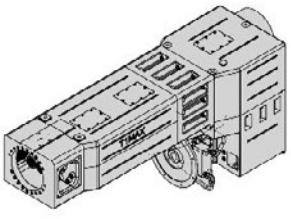
4. Take the gearbox size you have selected and confirm whether or not the installation dimensions suit your Extruder by referring to the geometry table.
5. If you are not able to find your requirements, our gearbox engineers will design your gearbox and its limiting criteria.

Mounting position and structural shape



left-hand, U-form



vertical, U-form

DURUMAX® – TGE 3 DOS

Twin Shaft Extruder Gearbox co-rotating

The DURUMAX®-TGE DOS from Henschel Antriebstechnik offers the Extruder builder high gearbox technology based on latest technical standards, which has been globally successful in hard competition to other products. We have forwardlooking Extruder gearbox concepts for you which convert the day-to-day high requirements of the end user concerning output into reality.

Examples of areas of application are:

Compounding | Direct Extrusion | Food and Petfood Extrusion

An overview of your advantages:

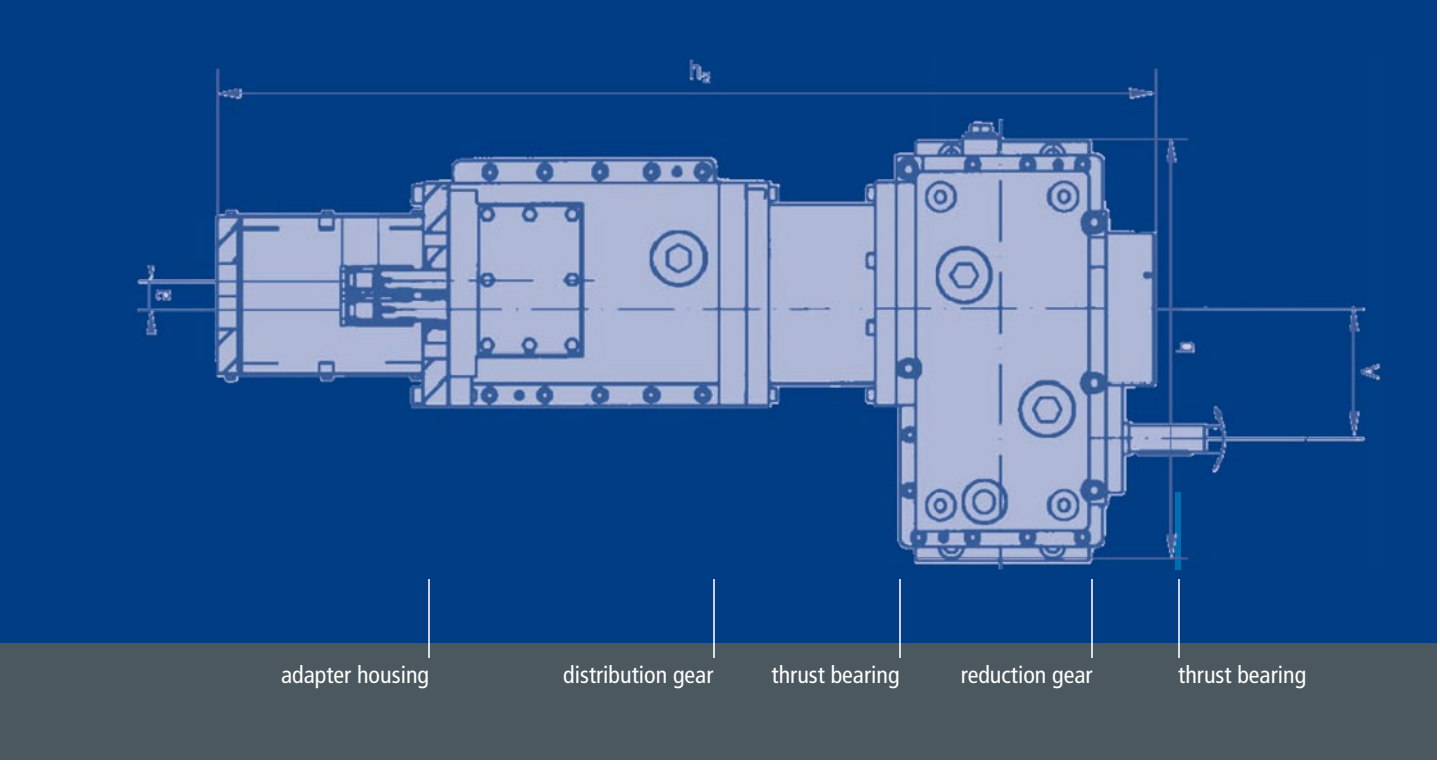
- The Extruder gearbox consists of the gearbox modules step-down gear, thrust bearing housing, power divider, adapter housing or alternatively tie bars. Each of these modules can be individually modified and interchanged. The gearbox housing modules are made of vibration reducing, thick-walled, noise reducing grey cast iron.
- The unique power divider with a double helical gear set transfers the highest torque safely and reliably whilst taking up a minimum of space. High output speed and durability of the bearings are guaranteed. This 3-shaft power divider concept is the most popular concept world-wide in co-rotating extrusion.
- The gears are case-hardened, correction-ground and optimised for the highest load capacity. The smoothness of running and low vibration of the Henschel gearboxes are a proof of their quality. We supply you with our specially designed topologically corrected gears, which enable exact adjustment of the flank fine geometry to the load and thus guarantees a wellbalanced utilisation of material.
- In opposite of the theoratical calculation we define the safety factors for the gears and the field-experienced application factor for external disturbance variables.
- A combined splash and forced spray lubrication system guarantees optimal lubrication, even in unfavourable environmental conditions, best heat elimination and low losses.

Engineering:

- Reliable design with a step-down gear and power divider with a double helical gear set
- Thrust bearings to pick up the highest thrust forces from the extrusion process
- Torque up to 25.400 Nm and all transmission ratios
- Brand name roller bearings from German manufacturers such as INA, FAG or SKF
- Splash and forced spray lubrication with integrated oil reservoir for emergency running properties
- Cooling system with separate lubrication system
- Cylinder and screw connections according to customer requirements
- Paintwork: priming paint

On request we can also supply the following:

- Lubrication system with oil filter
- Monitoring of temperature, pressure or rate of flow
- Level switch
- Monitoring of the screw speed
- Torque measurement
- Load cells to measure back pressure forces
- The gearbox can be engraved with the company name and corporate logo
- Gearbox supplied with final coating



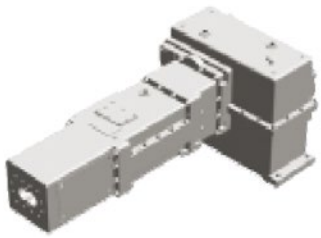
Assembly dimensions

gearbox size	main dimensions mm				
	a	A	h_2	b	weight kg
TGE 3-26-DOS	22	120	636,5	395	108
TGE 3-34-DOS	30	138	960	475	218
TGE 3-37-DOS	31	138	960	475	218
TGE 3-40-DOS	33,4	135,6	973	475	230
TGE 3-48-DOS	40	175	1253	525	440
TGE 3-50-DOS*	42	21	1290	379	465
TGE 3-53-DOS	43	175	1286	565	456
TGE 3-63-DOS	51,75	200	1514	652	764
TGE 3-65-DOS*	52	26	1336	460	870
TGE 3-70-DOS	58,5	225	1693	740	940
TGE 3-72-DOS	59,5	225	1769	740	940
TGE 3-75-DOS*	60	30	1532	530	1.095
TGE 3-85-DOS	70	280	1809	880	1.530
TGE 3-95-DOS*	78	44,5	2190	560	1.750
TGE 3-130-DOS*	110	55	2530	830	4.420

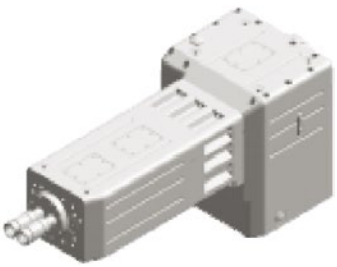
* vertical

h_2 are approx. values only as they vary depending on the adapter situation

Mounting position



right-hand, Z-form



vertical, Z-form

DURUMAX® – TGE 3 DOS

Twin Shaft Extruder Gearbox co-rotating

Power rating table

Your specific power data determines the provisional size of the gearbox. The power ratings in the table are designed in such a way that they guarantee sufficient safety factors of the gears in accordance with DIN 3990 with an application factor K_A=1,25. The service life of the bearings is set at a standard of L_h > 20.000 h. Your requirements of the gearbox and their limiting criteria are of course checked by our gearbox engineers so that you receive a product which inspires you.

gearbox size	TGE 3-26-DOS			TGE 3-34-DOS			TGE 3-37-DOS			TGE 3-40-DOS		
center distance	22 mm			30 mm			31 mm			33,4 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
300	8	245	2	20	620	6	23	685	16	28	850	24
350	9	245	2	24	620	5	26	685	16	33	850	24
400	11	245	2	27	620	5	30	685	16	37	850	24
450	12	245	2	31	620	5	34	685	16	42	850	24
500	13	245	2	34	620	5	38	685	16	47	850	24
550	15	245	2	38	620	5	41	685	16	51	850	24
600	16	245	2	41	620	5	45	685	16	56	850	24
650	17	240	2	43	605	5	48	670	16	60	850	24
700	18	235	2	46	595	4	50	655	16	65	850	24
800	20	225	2	50	570	4	55	630	16	75	850	24
900	21	215	2	54	550	4	60	605	16	80	810	20
1.000	23	210	2	59	535	4	65	590	16	85	780	20
1.100	25	205	2	63	520	4	69	570	16	95	780	20
1.200	26	200	2	67	505	4	73	555	16	100	780	20

gearbox size	TGE 3-48-DOS			TGE 3-50-DOS			TGE 3-53-DOS			TGE 3-63-DOS		
center distance	40 mm			42 mm			43 mm			51,75 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
300	49	1.470	26	55	1.655	27	60	1.830	29	105	3.190	45
350	57	1.470	26	64	1.655	27	70	1.830	29	123	3.190	45
400	65	1.470	26	73	1.655	27	80	1.830	29	140	3.190	45
450	73	1.470	26	82	1.655	27	90	1.830	29	158	3.190	45
500	81	1.470	26	91	1.655	27	101	1.830	29	175	3.190	45
550	89	1.470	26	100	1.655	27	111	1.830	29	193	3.190	45
600	97	1.470	26	109	1.655	27	121	1.830	29	210	3.190	45
650	103	1.435	26	116	1.615	27	128	1.785	29	222	3.110	45
700	108	1.405	26	122	1.580	27	134	1.745	29	234	3.045	44
800	119	1.350	26	134	1.520	27	148	1.675	29	257	2.925	43
900	129	1.305	26	145	1.465	27	160	1.620	29	279	2.820	41
1.000	139	1.265	26	156	1.420	27	173	1.570	29	301	2.735	40
1.100	148	1.225	26	167	1.380	27	184	1.525	29	321	2.660	39
1.200	158	1.195	26	177	1.345	27	196	1.485	29	342	2.590	38

gearbox size	TGE 3-65-DOS			TGE 3-70-DOS			TGE 3-72-DOS			TGE 3-75-DOS		
center distance	52 mm			58,5 mm			59,5 mm			60 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
300	105	3.190	45	152	4.605	55	160	4.845	58	160	4.845	58
350	123	3.190	45	177	4.605	55	186	4.845	58	186	4.845	58
400	140	3.190	45	203	4.605	55	213	4.845	58	213	4.845	58
450	158	3.190	45	228	4.605	55	240	4.845	58	240	4.845	58
500	175	3.190	45	253	4.605	55	266	4.845	58	266	4.845	58
550	193	3.190	45	278	4.605	55	293	4.845	58	293	4.845	58
600	210	3.190	45	304	4.605	55	320	4.845	58	320	4.845	58
650	222	3.110	45	321	4.495	55	338	4.730	58	338	4.730	58
700	234	3.045	44	338	4.395	55	356	4.625	58	356	4.625	58
800	257	2.925	43	372	4.225	55	391	4.445	57	391	4.445	57
900	279	2.820	41	403	4.075	55	425	4.290	55	425	4.290	55
1.000	301	2.735	40	434	3.950	53	457	4.155	53	457	4.155	53
1.100	321	2.660	39	464	3.840	52	489	4.040	52	489	4.040	52
1.200	342	2.590	38	493	3.740	50	519	3.935	50	519	3.935	50

gearbox size	TGE 3-85-DOS			TGE 3-95-DOS			TGE 3-130-DOS		
center distance	70 mm			78 mm			110 mm		
n_2 [rpm]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]	P_M [kW]	T_2 [Nm]	F_{axW} [kN]
300	260	7.890	81	325	9.840	101	834	25.400	192
350	304	7.890	81	379	9.840	101	973	25.400	192
400	347	7.890	81	433	9.840	101	1.112	25.400	192
450	390	7.890	81	487	9.840	101	1.232	25.019	189
500	434	7.890	79	541	9.840	101	1.348	24.644	186
550	477	7.890	77	595	9.840	101	1.461	24.274	183
600	520	7.890	75	649	9.840	101	1.546	23.546	178
650	550	7.700	73	687	9.605	101	1.625	22.839	173
700	580	7.530	72	723	9.395	98	1.697	22.154	167
800	637	7.235	69	794	9.025	95	1.881	21.490	162
900	691	6.985	66	862	8.715	91	-	-	-
1.00	744	6.770	64	928	8.440	88	-	-	-
1.100	796	6.575	63	992	8.205	86	-	-	-
1.200	845	6.410	61	1.055	7.990	84	-	-	-

P_M = motor power [kW]
T_2 = total output torque [Nm] at $K_A = 1,25$
F_{axW} = allowable axial force per shaft [kN]
n_2 = output speed [min^{-1}]

Information to the tables:

1. Define your specific centre distance in the power rating table.
2. Select the output speed n_2 you require.
3. Look for the required motor power P_M or your output torque T_2 in the selected line.
4. Take the gearbox size you have selected and confirm whether or not the installation dimensions suit your Extruder by referring to the geometry table.
5. If you are not able to find your requirements, our gearbox engineers will design your gearbox and its limiting criteria.

TA Oil Cooling and Lubrication Units

Tailor made oil cooling and lubrication Units for every Application

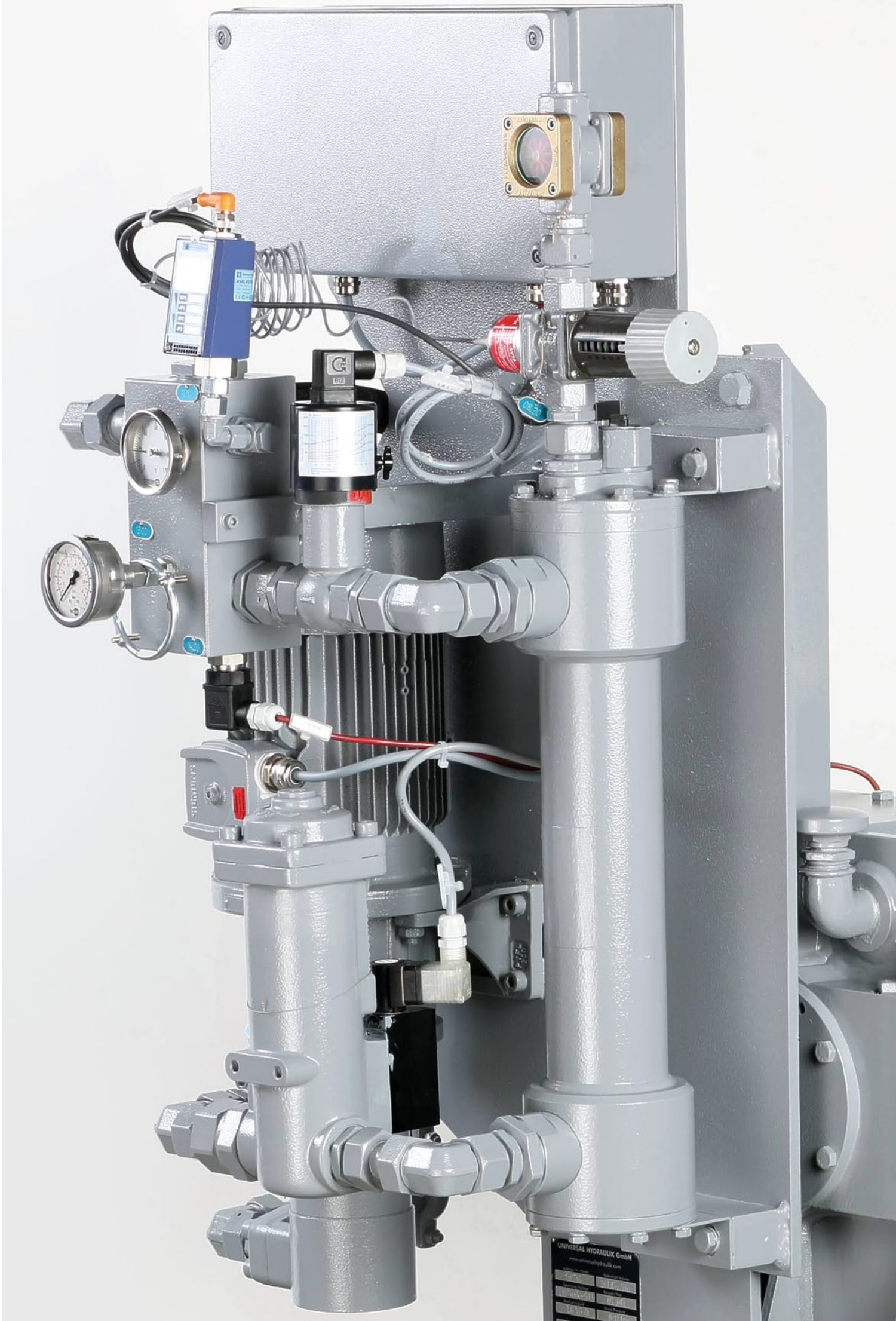
Our tailor made oil cooling and lubrication units ensure optimum lubrication of our DURUMAX® gearboxes and a efficient heat elimination in every range of performance.

Features:

- For every application the right dimensioned oil cooling and lubrication unit
- Wide range of standard units consisting of:
  - electrical driven oil-pump
  - heat-exchanger
  - pressure switch
  - oil-filter
- Each unit can be adjusted individually e.g. with
  - switchable double oil-filter with impurification display
  - thermometer, manometer
  - thermostat valve for cooling water flow

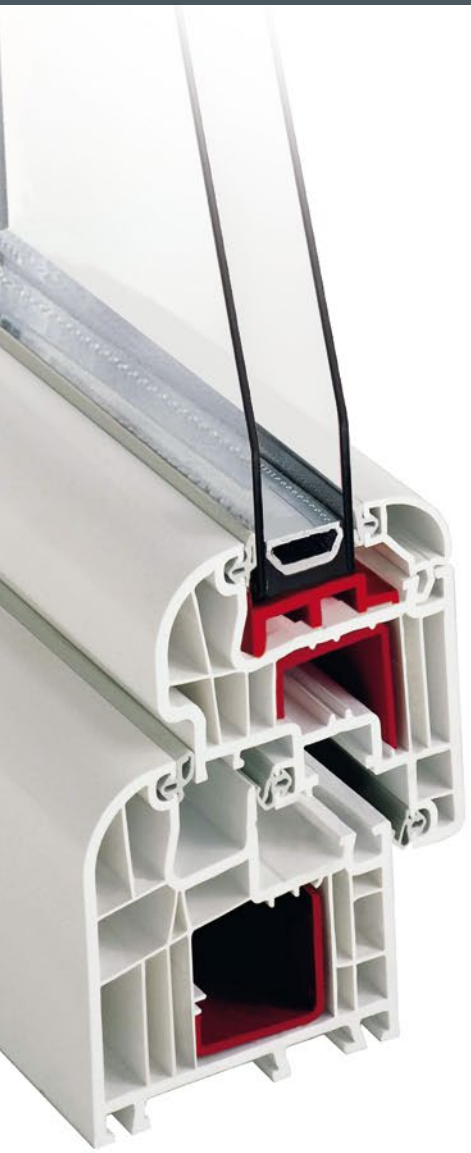
Technical Details:

type	cooling capacity [kW]	circulating oil quantity [l/min]
TA 2,5-6-320	2,5	6
…	…	…
TA 265-700-320	265	700

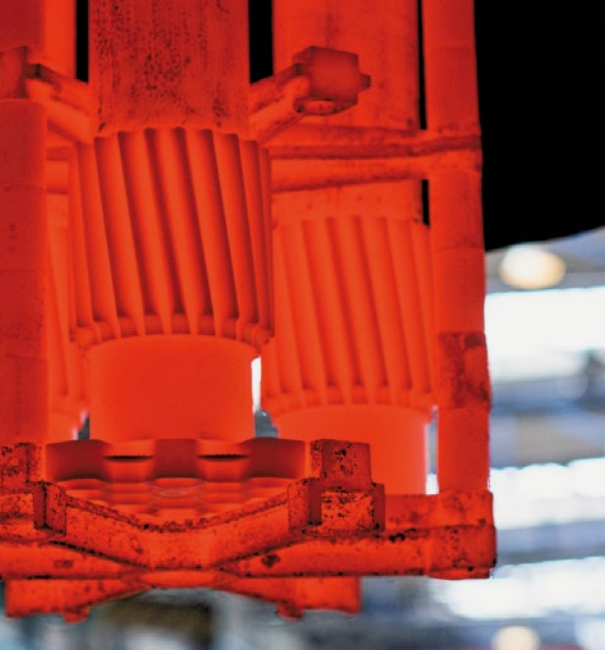

UNIVERSAL HYDRAULIK GmbH

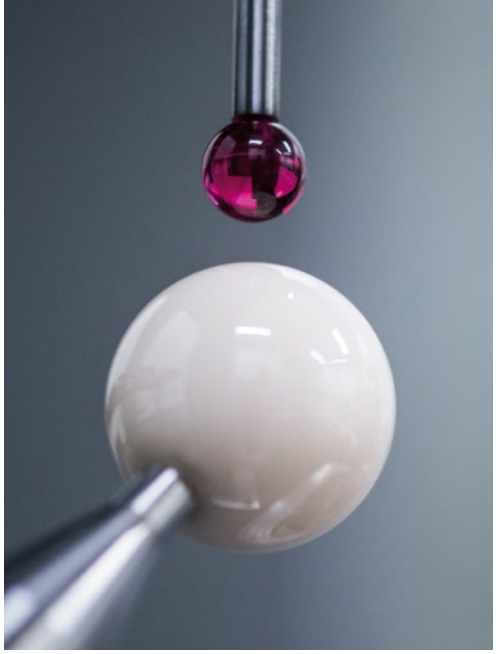
Wide Variety of Applications

Profile | Pipe | WPC | Food | Petfood | Compounds



Recyclat | Masterbatch | Confectionary





We want you to be pleased with us

Our policy of quality has established itself within our company code. We wish to offer our customers products and services of the highest standard. For this reason we have introduced an apparatus for a contract based quality management system according to DIN EN ISO 9001. This system is applied to every contract. We persue the permanent target of producing even better products with less deviances.

CERTIFICATE

HENSCHEL Antriebstechnik GmbH

ISO 9001 : 2008

IRIS Certification

CERTIFICATE

International Railway Industry Standard (IRIS)
Revision 02, May 2009

Our employees both on the production level and in administration have committed themselves in the interest of our customers to systematically applying this quality management system.

Henschel Antriebstechnik supports its claim to quality as a member company of the "Forschungsvereinigung Antriebstechnik e.V." (FVA). By taking part in numerous FVA-teams working on such subjects as spur gears, materials, worm gearboxes, computer calculation and simulation as well as oils and lubrication our engineers are actively informed of the most up to date research results. This knowledge is then constantly transfered to our products.

We want you to be pleased with us. Your success is our motivation!

FVA Forschungsvereinigung Antriebstechnik e.V.

IRIS Certification

Henschel service proven as the best choice for all cases

Henschel is known worldwide for its high quality and durability. On this basis, it is our philosophy to ensure the highest possible availability of our systems. We master all technologies necessary to assess the gears as part of your high available equipment. In line with this we offer you the best possible service.

We are a German engineering company with over 200 years of experience. Few companies can rely on such a vast accumulated know-how. This makes our service unique.

Service for the entire life cycle of your Extruder gearbox

Installation and commissioning
Schooling | Training | Start-up service | Special Tools

From the commissioning and start-up of its systems, you can use our professional knowledge for your purposes. We assist you with the installation of your gear with our Henschel local specialists, wherever and whenever you need us. We will prepare you for your gear and give you a successful and long-lasting operation.

During Operation
Monitoring | Mobile Services | Plant Data Collection

We provide on-site operational, energetic support and bring to you our knowledge in your production - even for other products. At your location, we provide operational support and put our knowledge to your production. We are there for you worldwide, wherever and whenever you need us. With „Go Smart" we provide you with exclusive and confidential operational data – for you to maximise your current work load and prepare you for the future.

Procurement policy
Spare parts platform | Financing | Rentals | Transmission Refurbishment | Replacement Parts | Repair

We provide you with exclusive and fast replacement of parts or devices before the day is out! At the end of the life cycle, we offer a refurbishment plan, or advise you as part of a new acquisition. For all types of repairs we are competently and quickly available, including repairs on gears from other manufacturers. Our specialists are eager to find solutions for your challenges.

Henschel performance program

With Henschel you have a partner who is targeted to the sustainable improvement of system availability and performance and to sharing their expert knowledge in your home base. The Henschel performance program is tailored to challenges through care and maintenance.

Henschel local specialists, wherever and whenever they are needed.

Worldwide made by Henschel

China

Henschel, Shanghai
Phone: +86 21 6469 7696
chn@henschelgroup.de

Czech Republic

Henschel, Brno
Phone: +420 602 710 300
cze@henschelgroup.de

Egypt

Henschel, Giza
Phone: +20 233 88 20 00
egy@henschelgroup.de

Germany

Henschel, Kassel
Phone: +49 561 801 5960
antriebstechnik@henschel.de

Henschel, Heilbad-Heiligenstadt
Phone: +49 3606 6073620
fertigungstechnik@henschel.de

Great Britain

Henschel, Nottingham
Phone: +44 115 9753655
gbr@henschelgroup.de

Henschel, Leconfield
Phone: +44 1964 751413
gbr@henschelgroup.de

India

Henschel, Ahmedabad
Phone: +91 79 25620953
ind@henschelgroup.de

Henschel, New Delhi
Phone: +91 11 47637300
ind@henschelgroup.de

Italy

Henschel, Milano
Phone: +39 02 48952242
ita@henschelgroup.de

North America

Henschel, Green Bay
Phone: +1 920 336 11 22
usa@henschelgroup.de

South Korea

Henschel, Seoul
Phone: +82 31 4730453
kor@henschelgroup.de

Switzerland

Henschel, Meilen
Phone: +41 44 6804600
che@henschelgroup.de

Taiwan

Henschel, Taipei
Phone: +886 2 27731885
twn@henschelgroup.de

HENSCHEL

Henschel GmbH
Marketing
Henschelplatz 1, 34127 Kassel, Germany
Phone: +49 561 801-6118
henschel@henschel.de

www.henschel.de