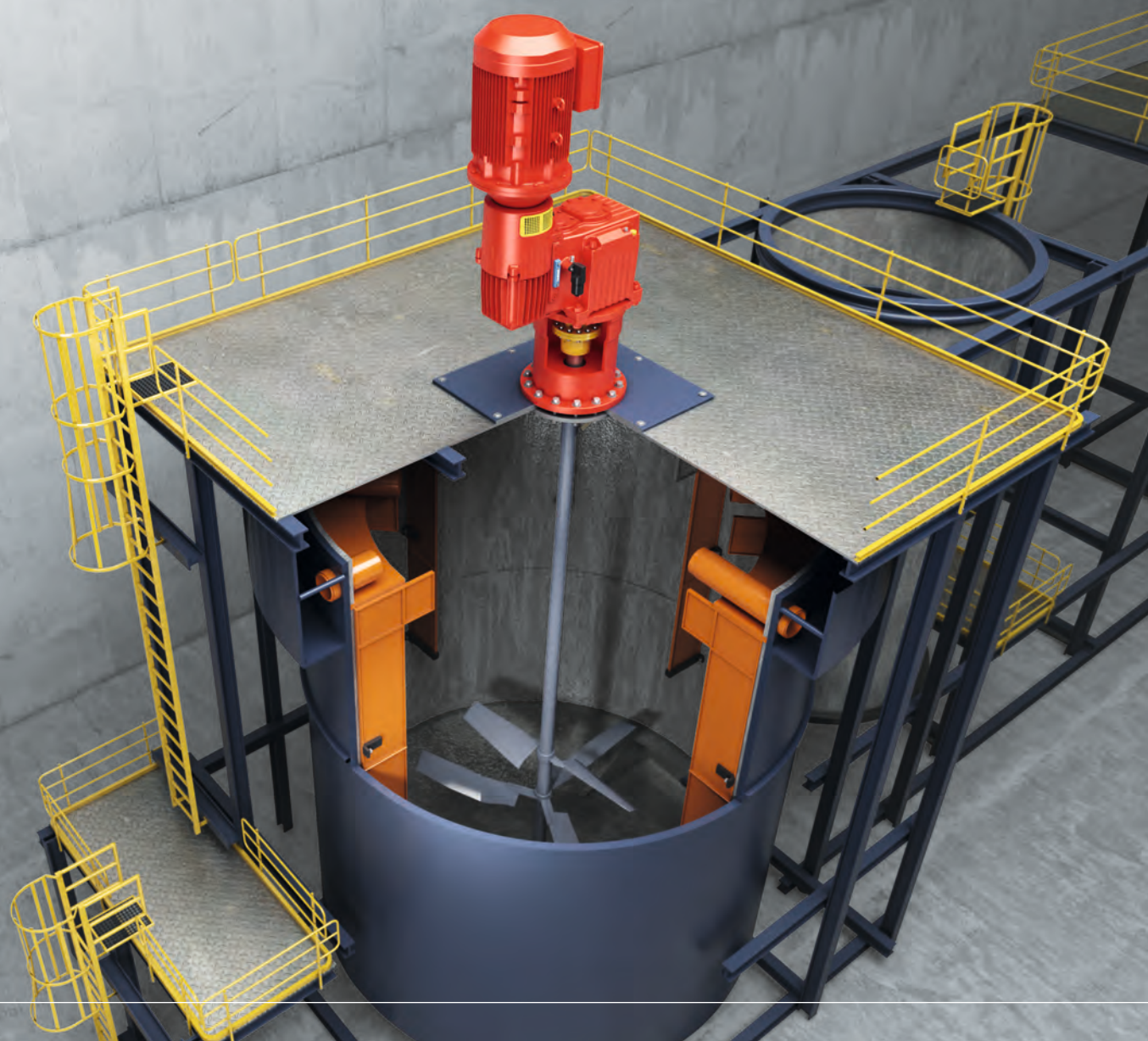


## Industrial Gear Units

Technology for Agitators and Aerators



## Complete drive systems for your agitators and aerators

Excellent performance needs a strong partner – SEW-EURODRIVE has been a supplier of drive technology for many decades and is now among the leading companies for drive technology worldwide. Whatever your requirements are, the application experts from SEW-EURODRIVE can provide you with the optimum drive package solution. What we offer is not just the individual components, such as gear units, couplings or efficient cooling systems, but a complete system that fits your needs precisely.

### You need a customized solution?

You can rely on us from project planning to commissioning and operation. We are dedicated to supporting you in keeping the total cost of ownership of your agitating system as low as possible. No matter whether you need technical

calculations, specific documentation, such as quality certificates or project-specific operating instructions, condition monitoring or service on site – SEW-EURODRIVE is your long-term partner.



## Our solutions for

### Vertical processes

6 – 27

RM.. / FM.. /KM.. series 0.45 to 20 kNm

x-series 6.8 to 475 kNm

MLV series 180 to 680 kNm

### Horizontal processes

28 – 37

x-series 6.8 to 475 kNm

# Complete drive systems for your agitators and aerators

Our gear units can be used wherever a high level of performance is required for mixing and agitating liquid or paste-type substances. Typical areas of application are the chemical industry, the food industry, waste water treatment, and mining.

## Horizontal processes



Twin shaft pharmaceutical mixer



Food mixer



Food mixer

## Vertical processes



Chemical mixer



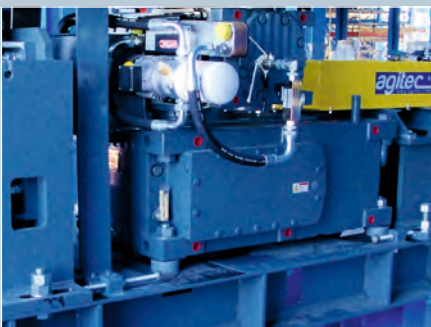
Flotation cell drive



Fermenter

In addition to the transmitted torque, high radial or axial forces are often supported by the output shaft. With its flexible product platform, SEW-EURODRIVE offers a load-specific bearing concept. It goes without saying that our drive

solutions are suitable for extreme conditions such as high ambient temperatures or ATEX. No matter whether your process is horizontal or vertical, we have the expertise for providing you with the ideal drive solution.



Coaxial chemical mixer



Mining mixers



Separator



Fertilizer



Aerator

## Vertical processes

### Facts and figures on the RM.. / FM.. / KM.. series

Torque range: 0.45 to 20 kNm

All standard gearmotor in agitator design are equipped with an extended bearing hub specifically optimized for use in mixers and agitators – using three tried-and-tested standard gear unit series, SEW-EURODRIVE

is able to provide the appropriate gear units in agitator design to cover almost any blender, agitator, mixer or kneader application in a whole range of different industries.

#### The advantages of gear units in agitator design:

- FEM-optimized housing for particularly high permitted overhung loads
- No additional bearing required for the agitator shaft
- Shaft and flange dimensions compatible with market standard dimensions
- Many different options and design variants available for optimum adaptation to the application
- It goes without saying that the standard gearmotors are also available in an explosion-proof design
- Global service provided by SEW-EURODRIVE

## At a glance

	RM.. series helical gear units (two- and three-stage)	FM../FAM.. series parallel-shaft helical gear units (two- and three-stage)	Helical-bevel gear units, KM../KAM.. series (three-stage)
	10 sizes: 57 / 67 / 77 / 87 / 97 / 107 / 127 / 137 / 147 / 167	7 sizes: 67 / 77 / 87 / 97 / 107 / 127 / 157	7 sizes: 67 / 77 / 87 / 97 / 107 / 127 / 157
Gear unit ratio $i$	4.29 – 289.74	3.87 – 281.71	5.20 – 197.37
Max. output torque kNm	0.45 – 20	0.82 – 20	0.82 – 20
Available options	<ul style="list-style-type: none"> <li>– Double oil seal on the output side for additional protection against leaks</li> <li>– Grease nipple for further greasing of output shaft bearings</li> <li>– The gear units use series housings and series gearing components. The special flange is bolted to the output side of the standard gear unit.</li> <li>– Available as gearmotors in energy efficiency classes IE1 to IE4</li> <li>– Motor power range of 0.12 – 200 kW</li> <li>– Option of AM.. motor adapter for mounting IEC and NEMA motors</li> </ul> <p>also available for FM../FAM.. and KM../KAM.. series:</p> <ul style="list-style-type: none"> <li>– Reinforced bearings also opposite the output side. These increase the permitted overhung load, particularly for high output speeds and low gear ratios.</li> <li>– Drywell design with leak sensor prevents the product from being contaminated by leaking lubricant.</li> </ul>		



## Characteristics of the X series

Torque range: 6.8 – 475 kNm

In addition to the torque that they have to transmit, agitators and mixer gear units are often subject to radial and axial load on the output shaft. We can deliver the ideal solution for each individual loading scenario we are confronted with. Our flexible product concept is based on a

load-specific bearing arrangement. Obviously, we are exclusively using premium bearing brands that enable an outstanding gear unit performance. Our name stands for high reliability and performance.



### Features

- Standardized bearing concepts to accommodate the usual load condition
- Universal housing
- Agitator housing

### Benefits

- Systematic use of a customer bearing can be avoided
- Gear unit can be combined with all available features from the standard X series
- Drywell, shaft end pump and bearing concepts are fully integrated
- Available in ATEX
- Global product and service availability



## X series

Size and torque capacity		Helical gear units for low, medium and heavy loads							
Gear unit size	Torque class M.. kNm	Agitator designs with HU housing					Agitator designs with HA housing (X3F only)		
100	6.8	Standard bearings for solid and hollow LSS	Reinforced bearings for hollow LSS						
110	8.5								
120	12.8								
130	16								
140	22								
150	27.5								
160	36								
170	45								
180	58								
190	65								
200	79								
210	90								
220	112	Reinforced bearings for solid LSS	Reinforced bearings for solid LSS						
230	131								
240	156								
250	175								
260	205								
270	240								
280	270								
290	308								
300	350								
310	425								
320	475								

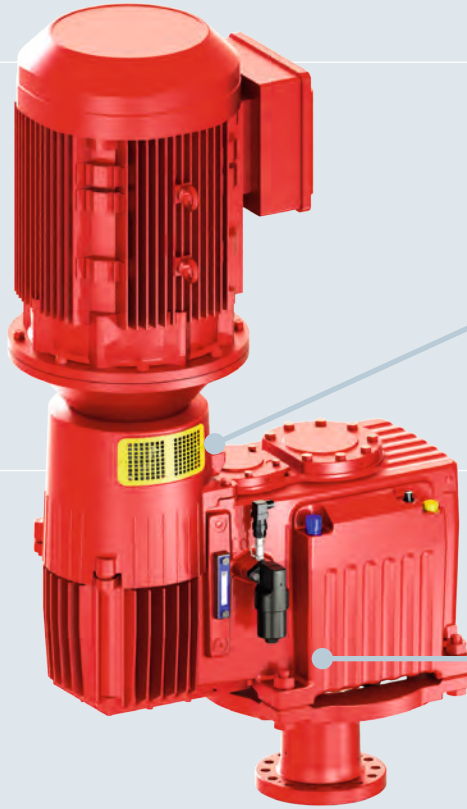
See page 24 for permitted forces; further sizes are available on request.

\* EBD for hollow shaft is available on request.

Wide range of available features for the X series  
Torque range: 6.8 – 475 kNm

Agitator design with  
HA housing (X3F only)

- X3F with integrated extended bearing distance (moderate, heavy duty or heavy radial duty)
- Integrated drywell sealing
- Integrated pressure lubrication
- Housing thermally optimized



Integrated cooling rib combined with axial or radial fan



Functional surfaces for maintenance and monitoring



Versatile shaft concepts



Solid shaft with keyway (or smooth type)



Hollow shaft with keyway (or splined hollow shaft)

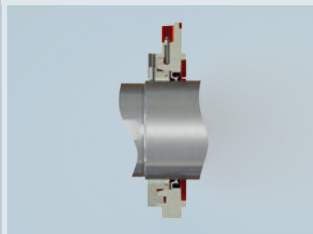


Splined solid shaft



Hollow shaft for shrink disk connection\*

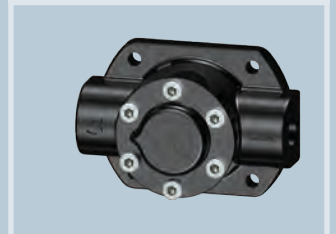
Efficient sealing concepts like Taconite



Bath lubrication with robust expansion tank

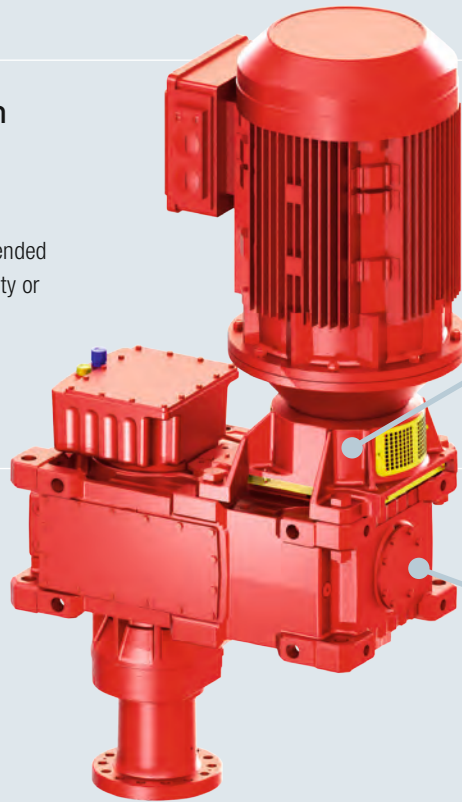


Pressure lubrication with shaft end pump

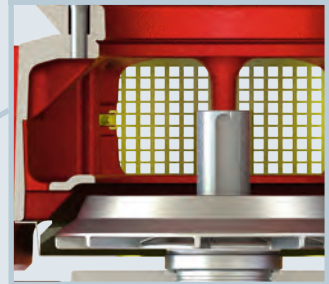


## Agitator designs with HU housing

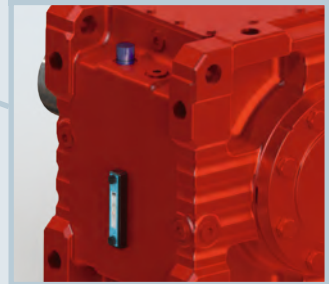
- XF/HU and XK/HU with or without extended bearing distance (moderate, heavy duty or heavy radial duty)



Radial fan in motor adapter



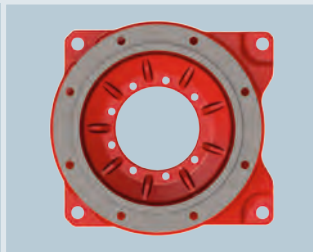
Oil monitoring



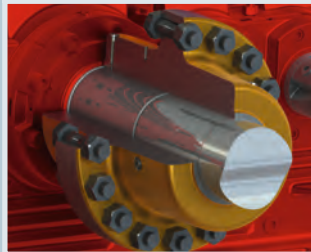
NEMA and IEC motor adapter



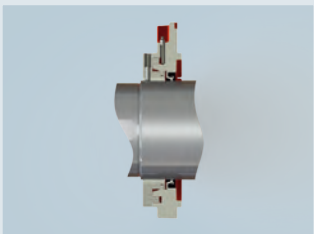
Flange or foot mounting



Flange coupling with/without key



Efficient sealing concepts like Taconite



External cooling systems



Customized flanges



\* EBD for hollow shaft is available on request

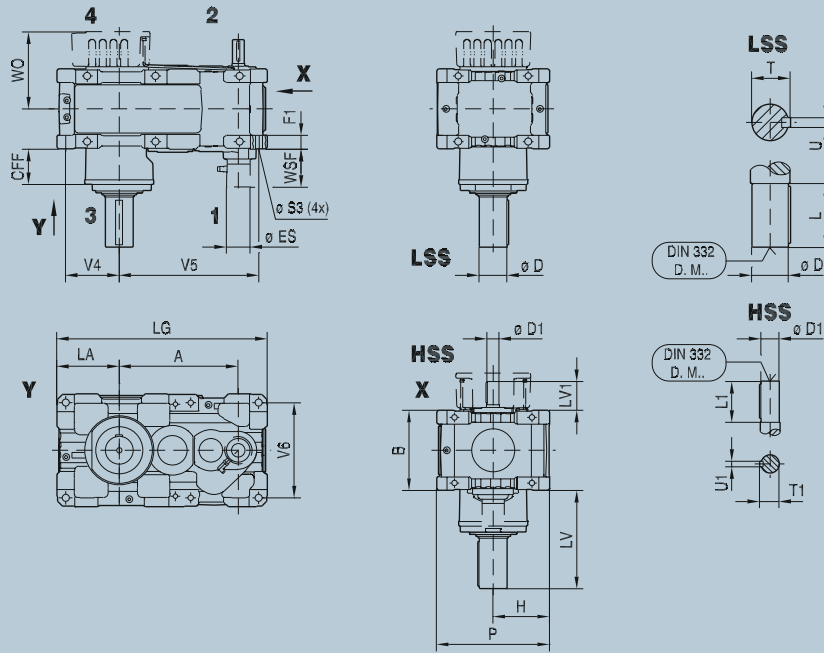
## Facts and figures on the X series

Torque range: 6.8 – 475 kNm

## Dimension for HU housing with extended bearing distances

Gear unit size	Bearing system	Housing mm										
		A	B	F1	H	LA	LG	P	Ø S3	V4	V5	V6
X3F.140/HU	Moderate duty	502	360	67	265	250	903	530	35(4X)	210	613	445
	Heavy duty	502	360	67	265	250	903	530	35(4X)	210	613	445
X3F.150/HU	Moderate duty	544	360	67	265	295	990	530	35(4X)	255	655	445
	Heavy duty	544	360	67	265	295	990	530	35(4X)	255	655	445
X3F.160/HU	Moderate duty	611	425	81	315	355	1144	630	42(4X)	303	737	525
	Heavy duty	611	425	81	315	355	1144	630	42(4X)	303	737	525
X3F.170/HU	Moderate duty	662	425	81	315	355	1195	630	42(4X)	303	788	525
	Heavy duty	662	425	81	315	355	1195	630	42(4X)	303	788	525
	Heavy radial duty	662	425	81	315	355	1195	630	42(4X)	303	788	525
X3F.180/HU	Moderate duty	707	475	81	335	370	1249	670	42(6X)	318	827	565
	Heavy duty	707	475	81	335	370	1249	670	42(6X)	318	827	565
	Heavy radial duty	707	475	81	335	370	1249	670	42(6X)	318	827	565
X3F.190/HU	Moderate duty	739	475	81	335	370	1281	670	42(6X)	318	859	565
	Heavy duty	739	475	81	335	370	1281	670	42(6X)	318	859	565
	Heavy radial duty	739	475	81	335	370	1281	670	42(6X)	318	859	565
X3F.200/HU	Moderate duty	794	515	91	375	420	1409	750	48(6X)	360	930	630
	Heavy duty	794	515	91	375	420	1409	750	48(6X)	360	930	630
	Heavy radial duty	794	515	91	375	420	1409	750	48(6X)	360	930	630
X3F.210/HU	Moderate duty	830	515	91	375	420	1445	750	48(6X)	360	966	630
	Heavy duty	830	515	91	375	420	1445	750	48(6X)	360	966	630
	Heavy radial duty	830	515	91	375	420	1445	750	48(6X)	360	966	630

The design shown here includes the extended bearing distance concept. All dimensions related to the standard bearing concept are shown in the X series catalog.



					Low-speed shaft LSS mm					High-speed shaft HSS mm					
WO	CFF	WSF	Ø ES	kg (Bath)	Ø D	L	LV	T	U	ratio i	Ø D1	L1	LV1	T1	U1
352.0	149.0	192.0	140	696	130 <sub>m6</sub>	250	456.0	137	32 <sub>h9</sub>	≥20	45 <sub>k6</sub>	110	152.5	48.5	14 <sub>h9</sub>
352.0	149.0	192.0	140	696	130 <sub>m6</sub>	250	493.0	137	32 <sub>h9</sub>						
347.5	186.0	192.0	140	804	150 <sub>m6</sub>	300	545.5	158	36 <sub>h9</sub>	≥25	45 <sub>k6</sub>	110	152.5	48.5	14 <sub>h9</sub>
347.5	186.0	192.0	140	804	150 <sub>m6</sub>	300	545.5	158	36 <sub>h9</sub>						
398.0	190.5	212.5	140	1175	160 <sub>m6</sub>	300	551.5	169	40 <sub>h9</sub>	≤56	60 <sub>k6</sub>	140	185.5	64.0	18 <sub>h9</sub>
398.0	190.5	212.5	140	1175	160 <sub>m6</sub>	300	551.5	169	40 <sub>h9</sub>	≥63	50 <sub>k6</sub>	110	155.5	53.5	14 <sub>h9</sub>
398.0	190.5	212.5	140	1325	160 <sub>m6</sub>	300	551.5	169	40 <sub>h9</sub>	≤71	60 <sub>k6</sub>	140	185.5	64.0	18 <sub>h9</sub>
398.0	190.5	212.5	140	1325	160 <sub>m6</sub>	300	551.5	169	40 <sub>h9</sub>	≥80	50 <sub>k6</sub>	110	155.5	53.5	14 <sub>h9</sub>
398.0	190.5	212.5	140	1325	170 <sub>m6</sub>	300	551.5	179	40 <sub>h9</sub>						
463.5	210.5	217.5	140	1687	170 <sub>m6</sub>	300	577.5	179	40 <sub>h9</sub>	≤56	70 <sub>k6</sub>	140	185.5	74.5	20 <sub>h9</sub>
463.5	210.5	217.5	140	1687	170 <sub>m6</sub>	300	577.5	179	40 <sub>h9</sub>	≥63	55 <sub>k6</sub>	110	155.5	59.0	16 <sub>h9</sub>
463.5	210.5	217.5	140	1687	180 <sub>m6</sub>	300	577.5	190	45 <sub>h9</sub>						
463.5	210.5	217.5	140	1752	170 <sub>m6</sub>	300	577.5	179	40 <sub>h9</sub>	≤63	70 <sub>k6</sub>	140	185.5	74.5	20 <sub>h9</sub>
463.5	210.5	217.5	140	1752	170 <sub>m6</sub>	300	577.5	179	40 <sub>h9</sub>	≥71	55 <sub>k6</sub>	110	155.5	59.0	16 <sub>h9</sub>
463.5	210.5	217.5	140	1752	180 <sub>m6</sub>	300	577.5	190	45 <sub>h9</sub>						
501.0	225.5	215.0	140	2405	200 <sub>m6</sub>	350	659.5	210	45 <sub>h9</sub>	≤56	75 <sub>k6</sub>	140	187.0	79.5	20 <sub>h9</sub>
501.0	225.5	215.0	140	2405	200 <sub>m6</sub>	350	659.5	210	45 <sub>h9</sub>	≥63	60 <sub>k6</sub>	140	187.0	64.0	18 <sub>h9</sub>
501.0	225.5	215.0	140	2405	210 <sub>m6</sub>	350	659.5	221	50 <sub>h9</sub>						
501.0	225.5	215.0	140	2486	200 <sub>m6</sub>	350	659.5	210	45 <sub>h9</sub>	≤63	75 <sub>k6</sub>	140	187.0	79.5	20 <sub>h9</sub>
501.0	225.5	215.0	140	2486	200 <sub>m6</sub>	350	659.5	210	45 <sub>h9</sub>	≥71	60 <sub>k6</sub>	140	187.0	64.0	18 <sub>h9</sub>
501.0	225.5	215.0	140	2486	210 <sub>m6</sub>	350	659.5	221	50 <sub>h9</sub>						

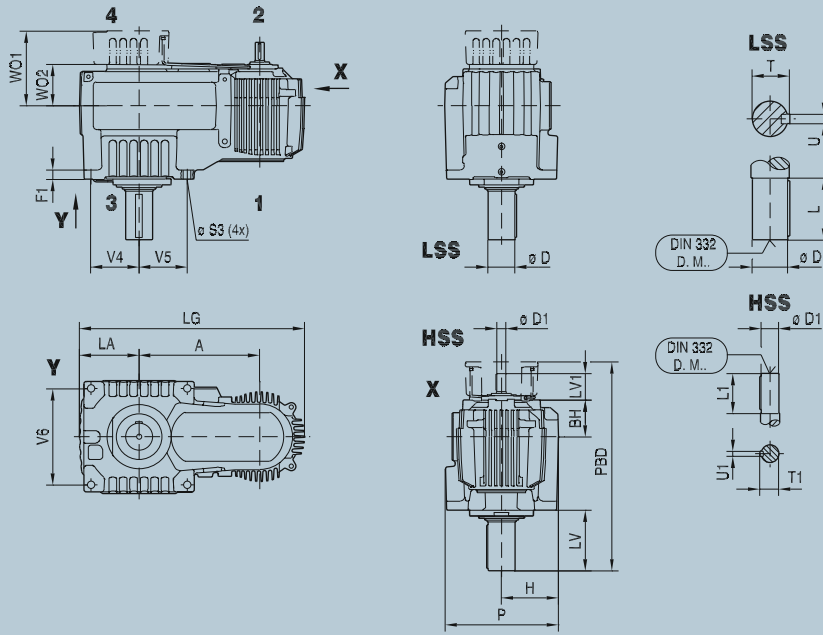
## Facts and figures on the X series

Torque range: 6.8 – 475 kNm

## Dimension for HA housing with extended bearing distances

Gear unit size	Bearing system	Housing mm									
		A	F1	H	LA	LG	P	Ø S3	V4	V5	V6
X3F.140/HA	Moderate duty	502	46	264.5	279.5	976.0	525.0	33(4X)	225	225	450
	Heavy duty	502	46	264.5	279.5	976.0	525.0	33(4X)	225	225	450
X3F.150/HA	Moderate duty	544	46	264.5	279.5	1018.0	525.0	33(4X)	225	225	450
	Heavy duty	544	46	264.5	279.5	1018.0	525.0	33(4X)	225	225	450
X3F.160/HA	Moderate duty	611	51	308.5	325.0	1171.0	612.5	39(4X)	260	260	520
	Heavy duty	611	51	308.5	325.0	1171.0	612.5	39(4X)	260	260	520
X3F.170/HA	Moderate duty	662	51	308.5	325.0	1222.0	612.5	39(4X)	260	260	520
	Heavy duty	662	51	308.5	325.0	1222.0	612.5	39(4X)	260	260	520
	Heavy radial duty	662	51	308.5	325.0	1222.0	612.5	39(4X)	260	260	520
X3F.180/HA	Moderate duty	707	57	348.5	365.0	1348.0	692.0	45(4X)	295	295	590
	Heavy duty	707	57	348.5	365.0	1348.0	692.0	45(4X)	295	295	590
	Heavy radial duty	707	57	348.5	365.0	1348.0	692.0	45(4X)	295	295	590
X3F.190/HA	Moderate duty	739	57	348.5	365.0	1380.0	692.0	45(4X)	295	295	590
	Heavy duty	739	57	348.5	365.0	1380.0	692.0	45(4X)	295	295	590
	Heavy radial duty	739	57	348.5	365.0	1380.0	692.0	45(4X)	295	295	590
X3F.200/HA	Moderate duty	794	62	420.5	440.5	1537.0	835.5	45(4X)	365	365	730
	Heavy duty	794	62	420.5	440.5	1537.0	835.5	45(4X)	365	365	730
	Heavy radial duty	794	62	420.5	440.5	1537.0	835.5	45(4X)	365	365	730
X3F.210/HA	Moderate duty	830	62	420.5	440.5	1573.0	835.5	45(4X)	365	365	730
	Heavy duty	830	62	420.5	440.5	1573.0	835.5	45(4X)	365	365	730
	Heavy radial duty	830	62	420.5	440.5	1573.0	835.5	45(4X)	365	365	730

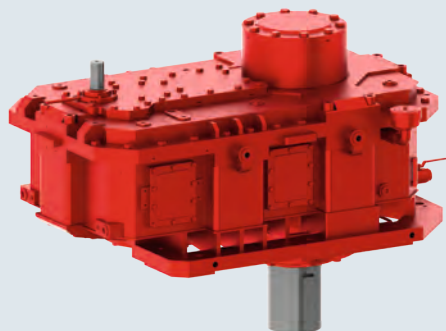
The designs shown include the extended bearing distance concept.



					Low-speed shaft LSS mm					High-speed shaft HSS mm					
W01	W02	BH	PBD	kg (Bath)	Ø D	L	LV	T	U	ratio i	Ø D1	L1	LV1	T1	U1
347.5	202.0	165.0	983.5	576	130 <sub>m6</sub>	250	306.0	137	32 <sub>h9</sub>	≥20	45 <sub>k6</sub>	110	152.5	48.5	14 <sub>h9</sub>
347.5	202.0	165.0	983.5	576	130 <sub>m6</sub>	250	343.0	137	32 <sub>h9</sub>						
347.5	202.0	165.0	1073.0	747	150 <sub>m6</sub>	300	358.5	158	36 <sub>h9</sub>	≥25	45 <sub>k6</sub>	110	152.5	48.5	14 <sub>h9</sub>
347.5	202.0	165.0	1073.0	747	150 <sub>m6</sub>	300	358.5	158	36 <sub>h9</sub>						
398.0	240.0	195.0	1162.0	1066	160 <sub>m6</sub>	300	359.0	169	40 <sub>h9</sub>	≤56	60 <sub>k6</sub>	140	185.5	64.0	18 <sub>h9</sub>
398.0	240.0	195.0	1162.0	1066	160 <sub>m6</sub>	300	359.0	169	40 <sub>h9</sub>	≥63	50 <sub>k6</sub>	110	155.5	53.5	14 <sub>h9</sub>
398.0	240.0	195.0	1162.0	1097	160 <sub>m6</sub>	300	359.0	169	40 <sub>h9</sub>	≤71	60 <sub>k6</sub>	140	185.5	64.0	18 <sub>h9</sub>
398.0	240.0	195.0	1162.0	1097	160 <sub>m6</sub>	300	359.0	169	40 <sub>h9</sub>	≥80	50 <sub>k6</sub>	110	155.5	53.5	14 <sub>h9</sub>
398.0	240.0	195.0	1162.0	1097	170 <sub>m6</sub>	300	359.0	179	40 <sub>h9</sub>						
463.5	277.0	225.0	1278.5	1427	170 <sub>m6</sub>	300	365.0	179	40 <sub>h9</sub>	≤56	70 <sub>k6</sub>	140	185.5	74.5	20 <sub>h9</sub>
463.5	277.0	225.0	1278.5	1427	170 <sub>m6</sub>	300	365.0	179	40 <sub>h9</sub>	≥63	55 <sub>k6</sub>	110	155.5	59.0	16 <sub>h9</sub>
463.5	277.0	225.0	1278.5	1427	180 <sub>m6</sub>	300	365.0	190	45 <sub>h9</sub>						
463.5	277.0	225.0	1278.5	1445	170 <sub>m6</sub>	300	365.0	179	40 <sub>h9</sub>	≤63	70 <sub>k6</sub>	140	185.5	74.5	20 <sub>h9</sub>
463.5	277.0	225.0	1278.5	1445	170 <sub>m6</sub>	300	365.0	179	40 <sub>h9</sub>	≥71	55 <sub>k6</sub>	110	155.5	59.0	16 <sub>h9</sub>
463.5	277.0	225.0	1278.5	1445	180 <sub>m6</sub>	300	365.0	190	45 <sub>h9</sub>						
501.0	297.5	242.5	1418.0	2154	200 <sub>m6</sub>	350	432.0	210	45 <sub>h9</sub>	≤56	75 <sub>k6</sub>	140	187.0	79.5	20 <sub>h9</sub>
501.0	297.5	242.5	1418.0	2154	200 <sub>m6</sub>	350	432.0	210	45 <sub>h9</sub>	≥63	60 <sub>k6</sub>	140	187.0	64.0	18 <sub>h9</sub>
501.0	297.5	242.5	1418.0	2154	210 <sub>m6</sub>	350	432.0	221	50 <sub>h9</sub>						
501.0	297.5	242.5	1418.0	2163	200 <sub>m6</sub>	350	432.0	210	45 <sub>h9</sub>	≤63	75 <sub>k6</sub>	140	187.0	79.5	20 <sub>h9</sub>
501.0	297.5	242.5	1418.0	2163	200 <sub>m6</sub>	350	432.0	210	45 <sub>h9</sub>	≥71	60 <sub>k6</sub>	140	187.0	64.0	18 <sub>h9</sub>
501.0	297.5	242.5	1418.0	2163	210 <sub>m6</sub>	350	432.0	221	50 <sub>h9</sub>						

## Facts and figures on the MLV series

### Torque range: 180 – 680 kNm



Customer-specific applications and tailor-made solutions must also be implementable for large machines and systems. The MLV series meets the specific requirements in the upper torque range from **180 to 680 kNm** and ensures the highest level of flexibility and variability.

#### ML series

Nominal output torque kNm							Nominal ratio	
Gear unit size	100	110	120	130	140	150	Min $i_N$	Max $i_N$
ML3PV..	150	211	288	404	559	780	20	80
ML4PV..	162	231	323	464	653	919	71	315
ML3RV..	130	186	253	354	480	724	14	71
ML4RV..	159	226	322	449	622	869	63	280



**Features**

- Vertical helical and bevel units
- Optimized strengthening of housing ribs
- Split housing
- All commercially available connection elements are possible at the input and output end

**Benefits**

- Application-oriented solution for vertical agitating processes
- Sturdy design
- Maintenance-friendly solution
- Complete drive packages from a single supplier



## Facts and figures on the MLV series Torque range: 180 – 680 kNm

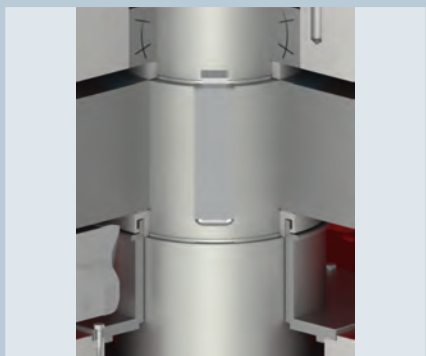
Vertical housing for agitator



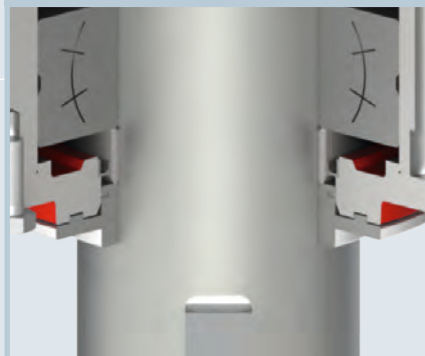
Extended bearing distance for high radial load capacity



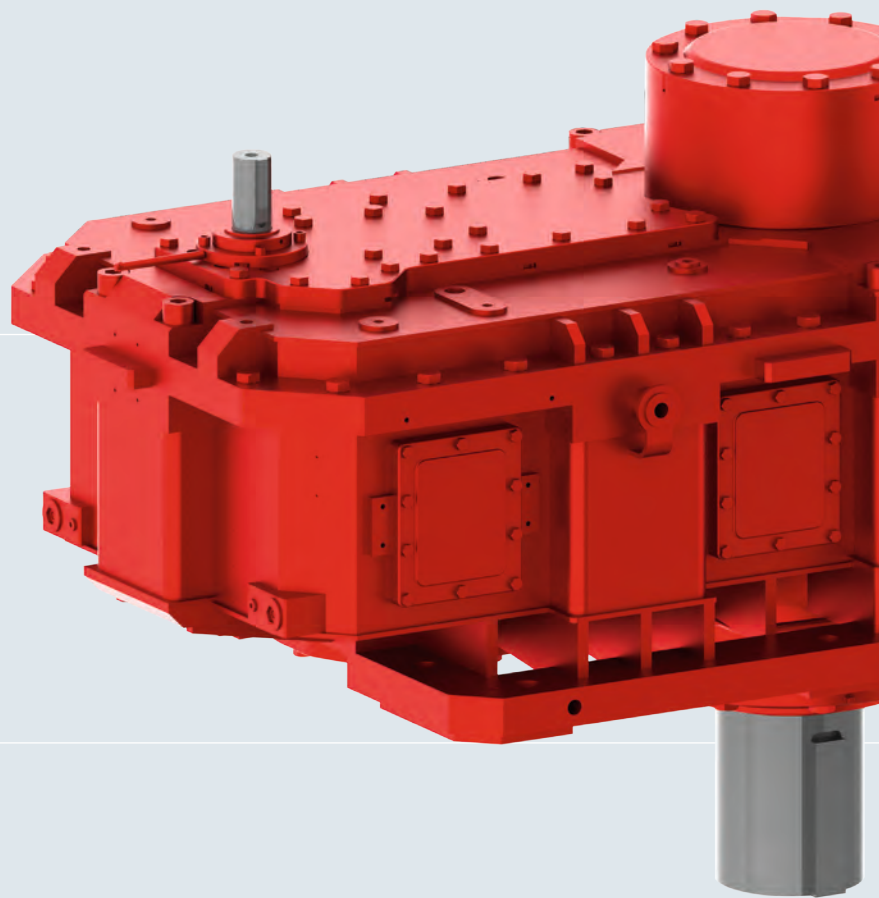
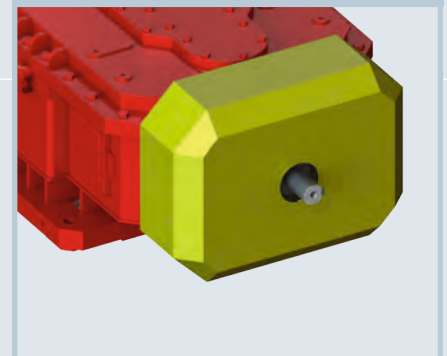
Drywell sealing on LSS

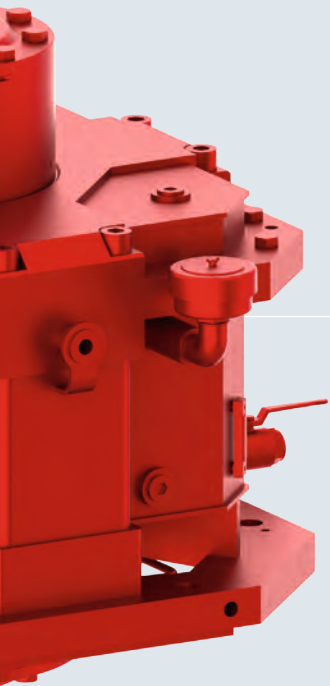


Taconite seals for extreme conditions

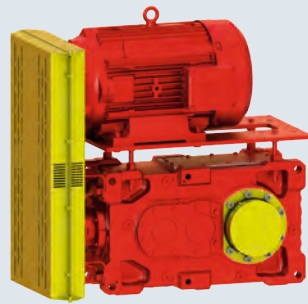


Efficient fan cooling

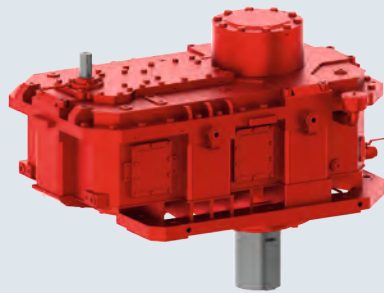




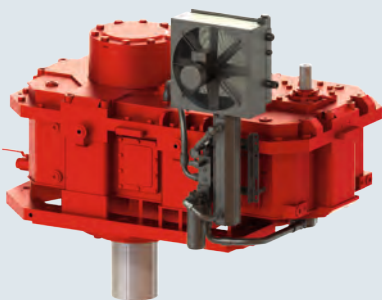
**V-belt solution**



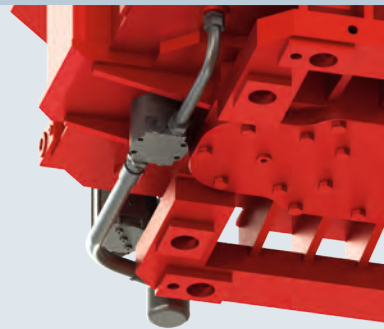
**Robust expansion tank for bath lubrication**



**External cooling by air or water for severe conditions**



**Pressure lubrication with shaft end pump or motor pump**



Many more options are available for the drive package

- Flange couplings
- NEMA/IEC motor adapter
- ATEX on request
- Descase breather
- Condition monitoring
- Flange or foot mounting

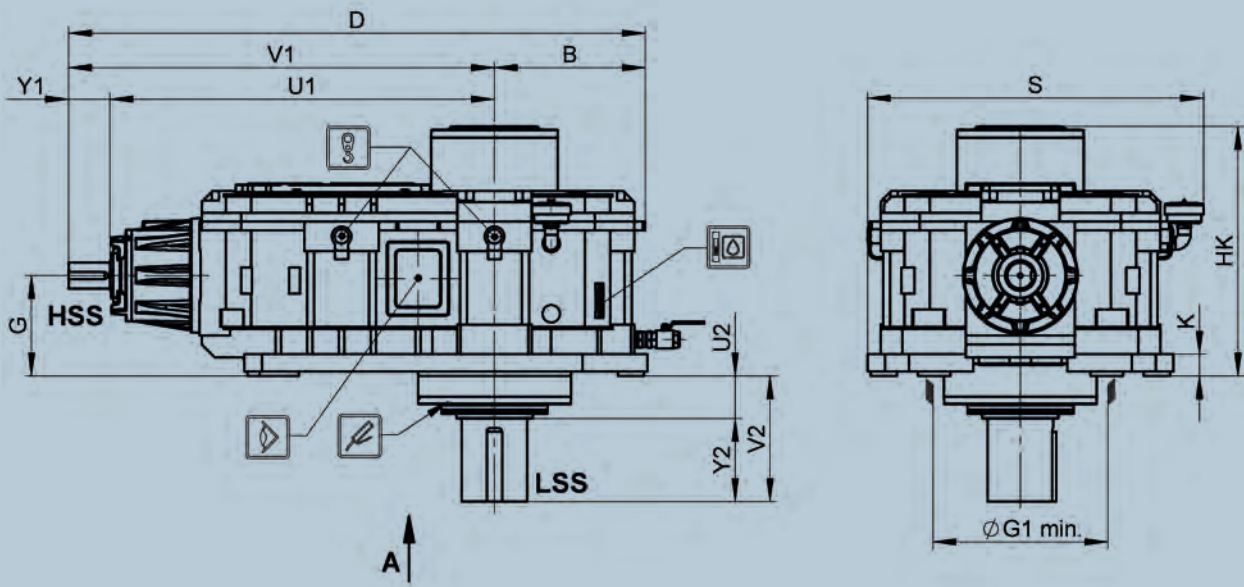


## Facts and figures on the MLV series

Torque range: 180 – 680 kNm

### Dimension drawings

Gear unit size	Housing dimensions mm												
	AH	B	C	D	E	EB	J	HK	S	R	JE	JE1	JE2
ML3PV100	990	575	1265	1840	1492	585	1170	~913	~1309	~706	1050	420	–
ML3PV110	1105	620	1410	2030	1645	630	1260	~1032	~1399	~778	1130	510	–
ML3PV120	1240	690	1580	2270	1845	700	1400	~1143	~1539	~848	1250	540	790
ML3PV130	1395	750	1775	2525	2065	765	1530	~1268	~1668	~908	1380	700	790
ML3PV140	1565	835	1965	2800	2280	845	1690	~1418	~1828	~993	1540	700	960
ML3PV150	1760	905	2190	3095	2535	915	1830	~1528	~1972	~1063	1670	750	950



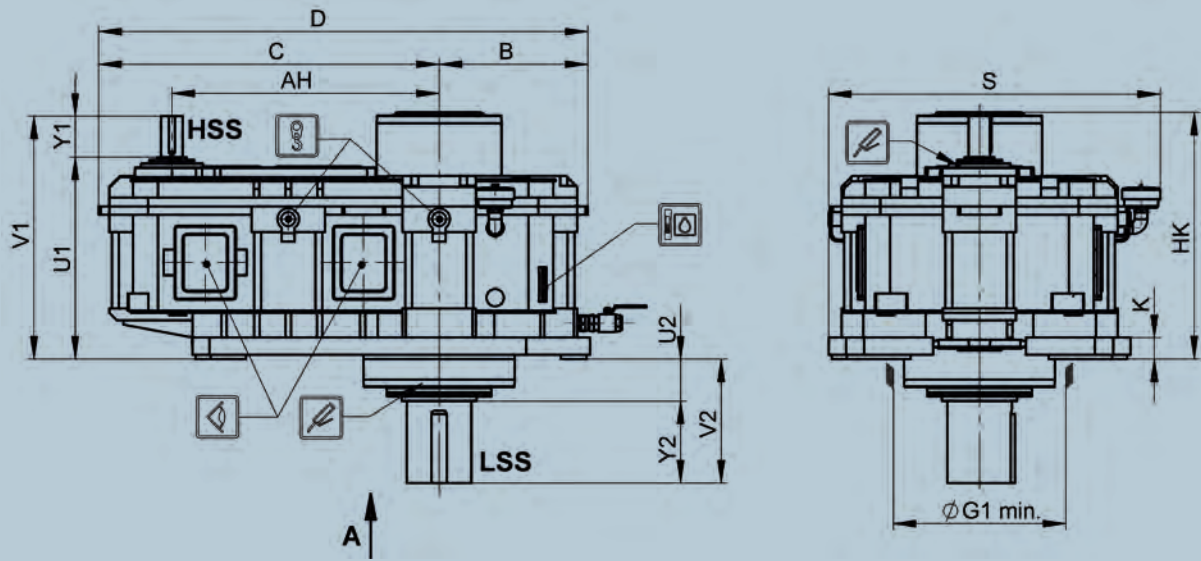
Low-speed shaft mm							High-speed shaft mm						Oil volume
i	U2	Y2	V2	d2	b2	h2	i	U1	Y1	V1	d1	b1	Pressure lubrication
20 – 80	170	280	450	220	50	231	20 – 40	765	150	915	85	22	110
							45 – 80		125		890	75	
20 – 80	185	380	515	260	56	272	20 – 40	855	150	1005	95	25	145
							45 – 80		150		1005	85	
20 – 80	195	380	575	300	70	314	20 – 45	935	190	1125	100	28	195
							50 – 80		150		1085	90	
20 – 80	165	450	615	360	80	375	20 – 50	1030	190	1220	110	28	285
							56 – 80		190		1220	100	
20 – 80	180	540	720	400	90	417	20 – 45	1120	225	1345	130	32	395
							50 – 80		190		1310	110	
20 – 80	180	540	720	420	90	437	20 – 45	1235	225	1460	140	36	605
							50 – 80		190		1425	120	

## Facts and figures on the MLV series

Torque range: 180 – 680 kNm

### Dimension drawings

Gear unit size	Housing dimensions mm												
	i	D	B	E	EB	G	J	HK	S	R	JE	JE1	JE2
ML3RV100	14 – 63	2145	575	1492	585	355	1170	~913	~1309	~706	1050	420	–
	≥ 71	2105											
ML3RV110	14 – 56	2360	620	1645	630	425	1260	~1032	~1399	~778	1130	510	–
	63 – 71	2320											
ML3RV120	14 – 56	2640	690	1845	700	460	1400	~1143	~1539	~848	1250	540	790
	63 – 71	2640											
ML3RV130	14 – 56	2880	750	2065	765	515	1530	~1268	~1668	~908	1380	700	790
	63 – 71	2845											
ML3RV140	14 – 63	3160	835	2280	845	570	1690	~1418	~1828	~993	1540	700	960
	≥ 71	3125											
ML3RV150	14 – 71	3455	905	2535	915	650	1830	~1528	~1972	~1063	1670	750	950



Low-speed shaft mm						High-speed shaft mm						Oil volume
U2	Y2	V2	d2	b2	h2	i	U1	Y1	V1	d1	b1	Pressure lubrication
170	280	450	220	50	231	14 – 63	1380	190	1570	100	28	105
						≥ 71		190	1530	85	22	
185	330	515	260	56	272	14 – 56	1550	190	1740	110	28	135
						63 – 71		150	1700	90	25	
195	380	575	300	70	314	14 – 56	1760	190	1950	120	32	180
						63 – 71		190	1950	100	28	
165	450	615	360	80	375	14 – 56	1905	225	2130	130	32	255
						63 – 71		190	2095	110	28	
180	540	720	400	90	417	14 – 63	2100	225	2325	140	36	360
						≥ 71		190	2290	120	32	
180	540	720	420	90	437	14 – 50	2325	225	2550	150	36	560
						56 – 71		225	2550	130	32	

## Horizontal processes



### Characteristics of the X series

Torque range: 6.8 – 475 kNm

With finely stepped sizes, the X series from SEW-EURODRIVE covers torques ranging from 6.8 to 475 kNm. The large number of predefined accessories offers a high degree of flexibility

for adapting to a broad range of application situations – with a minimum of components at maximum availability.

### Size overview

#### Gear ratios and torques

**X.F. helical gear units:** 2, 3 and 4 stages, gear ratio  $i = 6.3$  to 450

**X.K. bevel-helical gear units:** 2, 3 and 4 stages, gear ratio  $i = 6.3$  to 450

**X.T. helical-bevel gear units:** 3 and 4 stages, gear ratio  $i = 12.5$  to 450

Gear unit size	Torque class $M_{N2}$ kNm	Gear unit size	Torque class $M_{N2}$ kNm
100	6.8	220	112
110	8.5	230	131
120	12.8	240	156
130	16	250	175
140	22	260	205
150	27.5	270	240
160	36	280	270
170	45	290	308
180	58	300	350
190	65	310	425
200	79	320	475
210	90		*

\* On request, a project-based solution can be offered for the torque range 475 kNm to 1200 kNm



**Features**

- Standardized helical and bevel units for all agitating processes
- Invertible gear unit housing
- Modular technology
- Great number of variants due to predefined options
- Customization

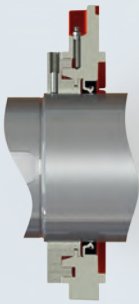
**Benefits**

- Short delivery time for standard versions and spare parts
- Extremely robust design
- Reduced costs and weight due to high power density
- Effective cooling systems
- Available in ATEX
- Worldwide service

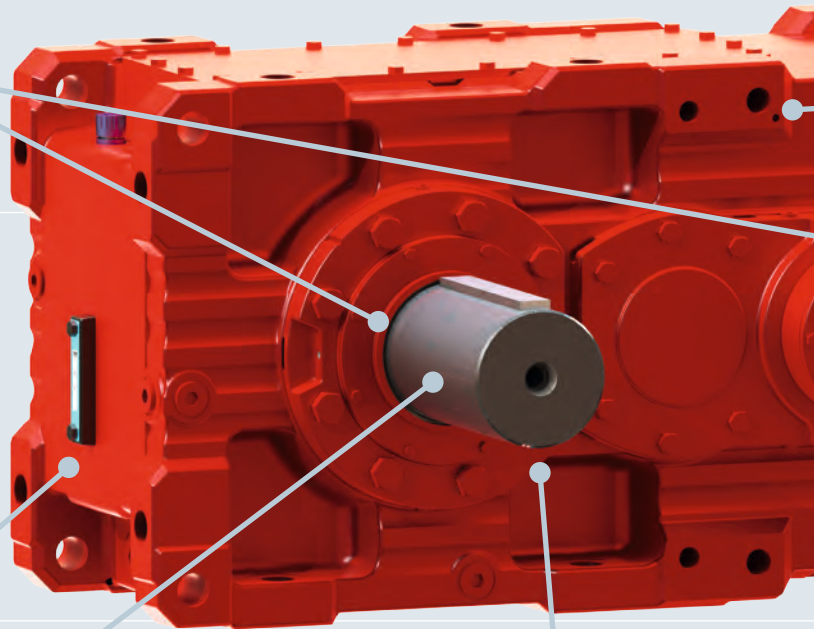


## Wide range of available features for the X series Torque range: 6.8 – 475 kNm

### Efficient sealing concepts like Taconite



### Oil monitoring



### Versatile shaft concepts



Solid shaft with keyway  
(or smooth type)



Hollow shaft with keyway  
(or splined hollow shaft)

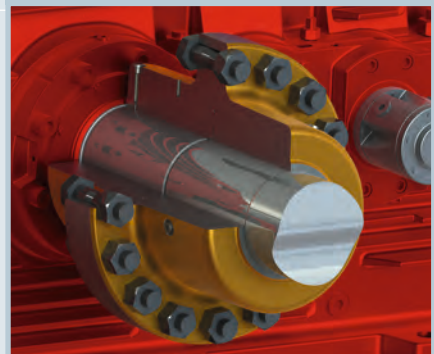


Splined solid shaft

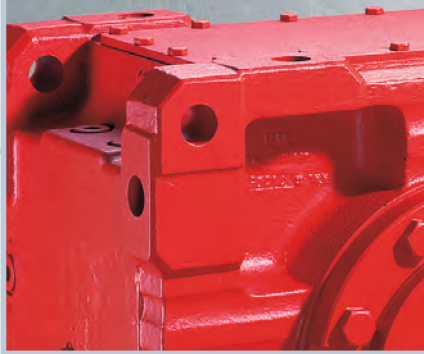


Hollow shaft for shrink  
disk connection

### Versatile coupling solutions



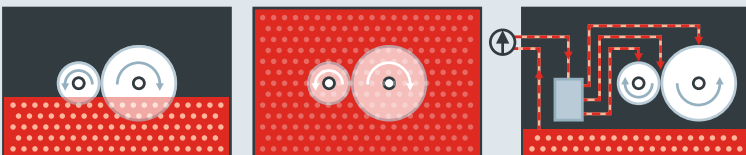
**Gray cast housing (GG25),  
invertible design**



**Powerful fan solutions**

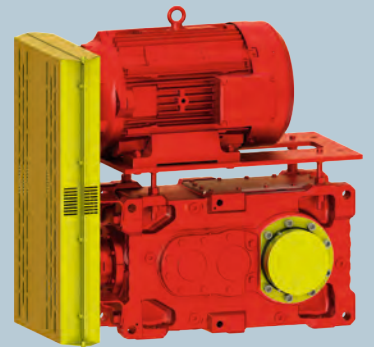


**Splash, bath and pressure lubrication available**



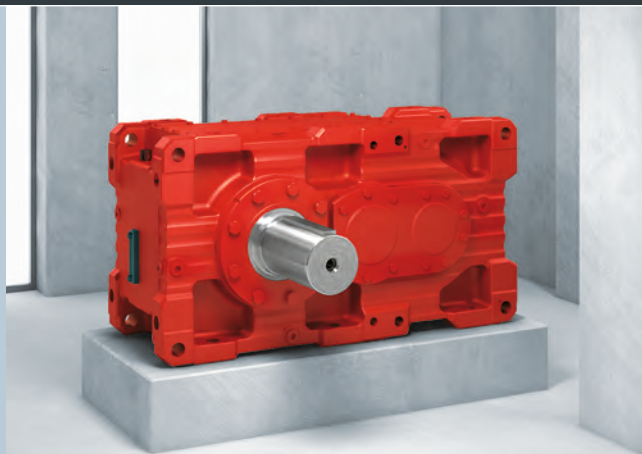
Many more options  
are available for  
the drive package

- V-belt
- Oil dipstick / oil level glass
- Foot, flange or shaft mounting
- Steel welded frame
- Mechanical and also fluid coupling
- Condition monitoring (oil aging, temperature monitoring, etc.)
- Standard or reinforced bearing concept
- ATEX on request



## Facts and figures on the X series

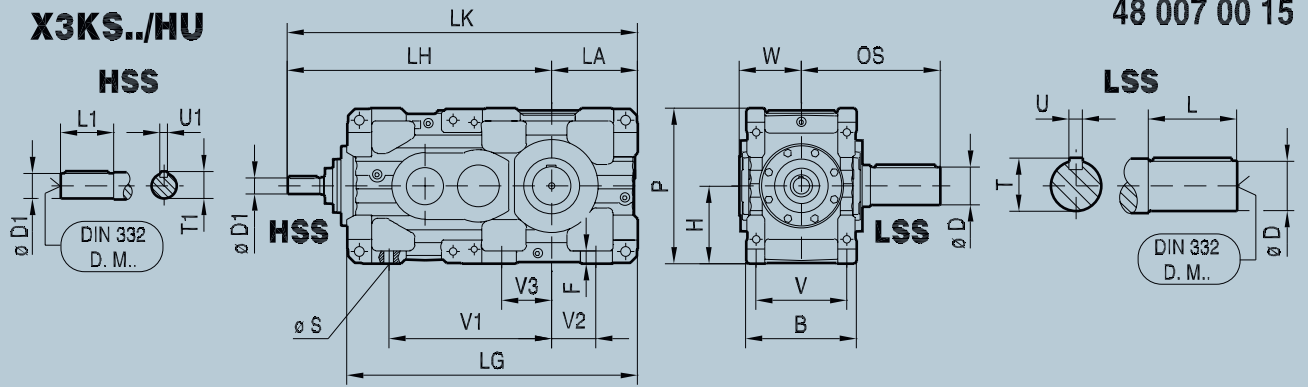
Torque range: 6.8 – 475 kNm



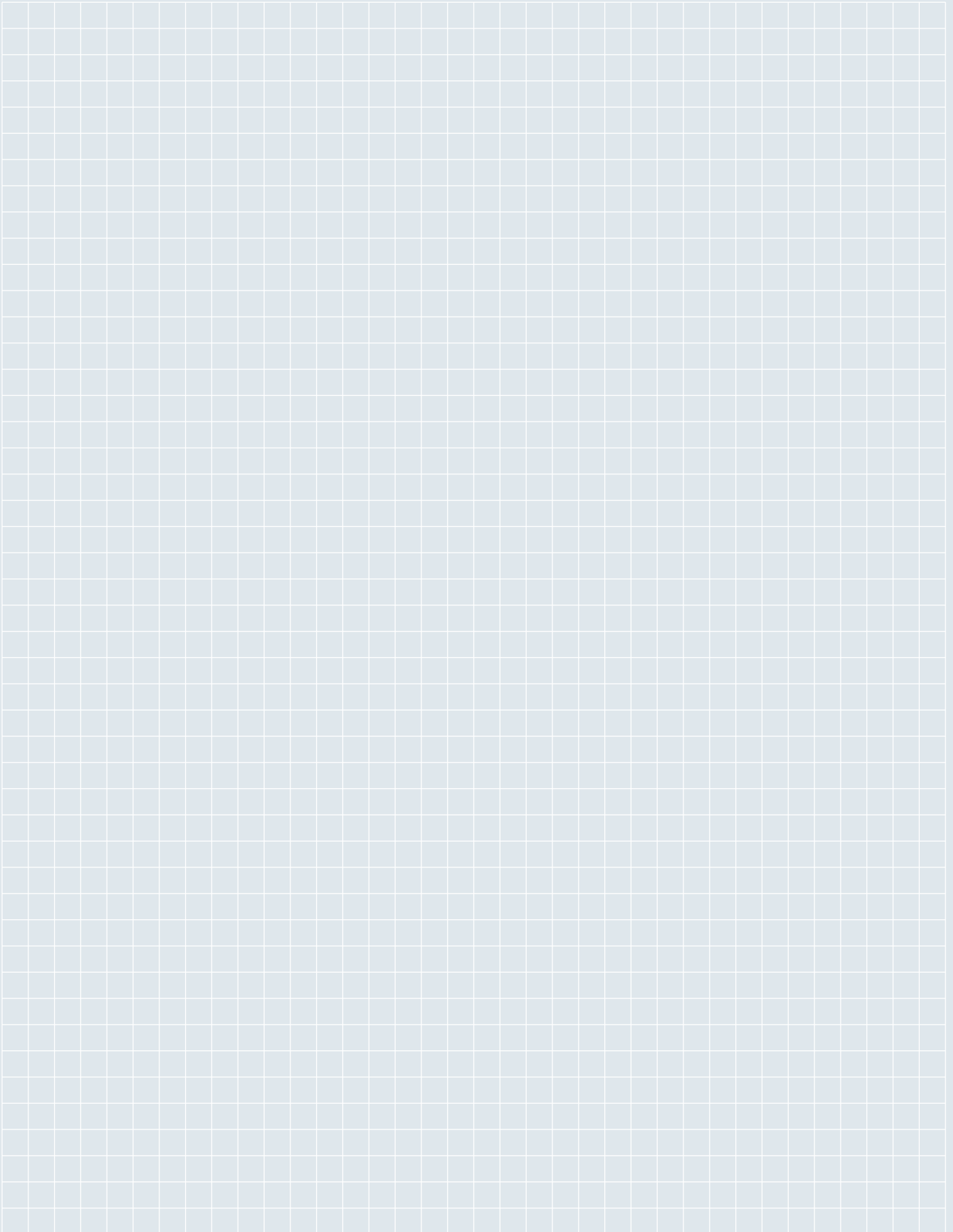
### Dimension drawings

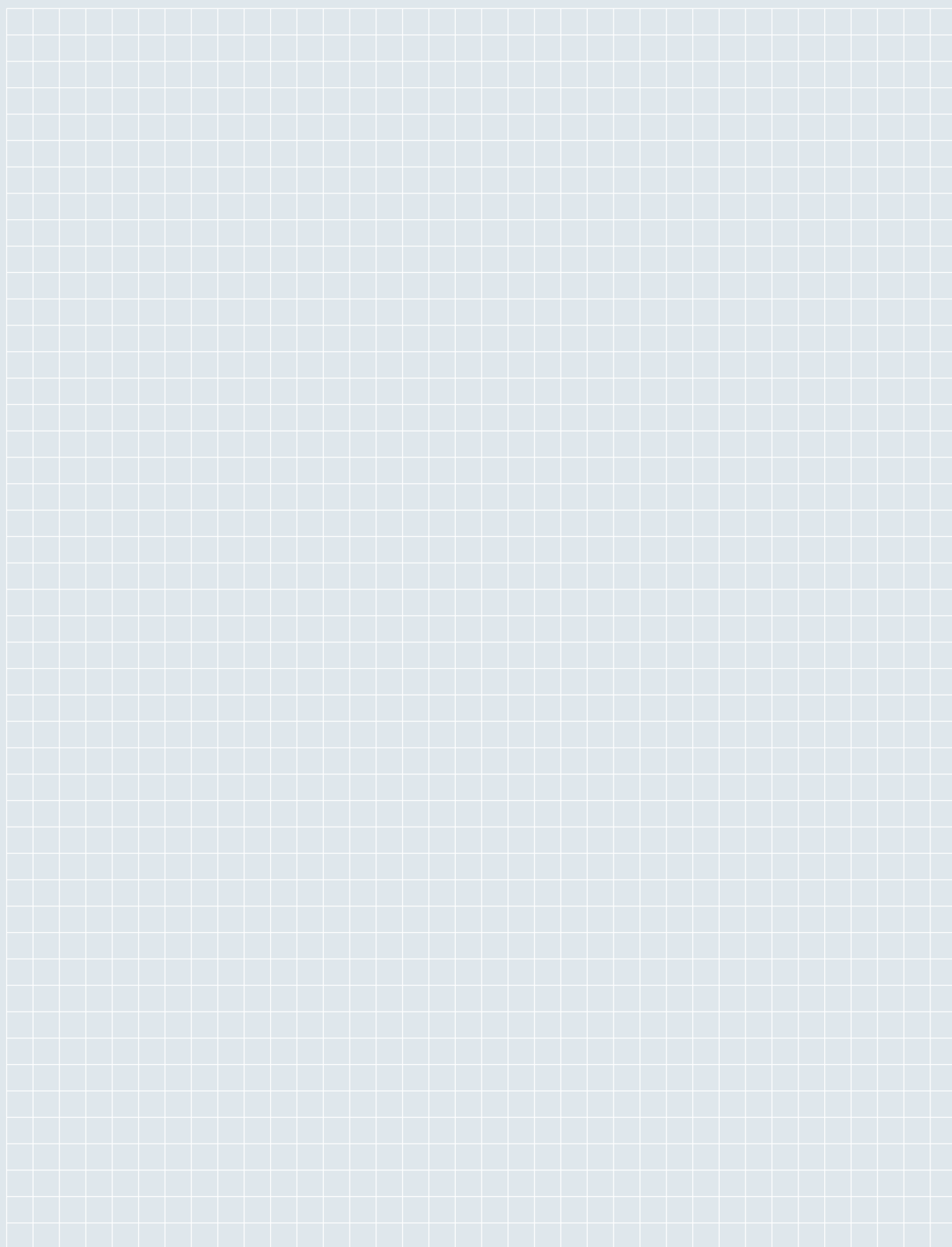
Gear unit size	Housing dimensions mm												
	B	F	H	LA	LG	LH	LK	P	Ø S	V	V1	V2	V3
X3K.100	260	29	190 <sub>-0.5</sub>	190 <sub>-0.5</sub>	658	632	822	380	24 (4x)	210	370	90	–
X3K.110	260	29	190 <sub>-0.5</sub>	215 <sub>-0.5</sub>	703	652	867	380	24 (4x)	210	390	115	–
X3K.120	300	33	225 <sub>-0.5</sub>	215 <sub>-0.5</sub>	767	745	960	450	28 (4x)	245	440	105	–
X3K.130	300	33	225 <sub>-0.5</sub>	250 <sub>-0.5</sub>	838	781	1031	450	28 (4x)	245	475	140	–
X3K.140	360	42	265 <sub>-0.5</sub>	250 <sub>-0.5</sub>	903	879	1129	530	35 (4x)	290	510	110	–
X3K.150	360	42	265 <sub>-0.5</sub>	295 <sub>-0.5</sub>	990	921	1216	530	35 (4x)	290	555	155	–
X3K.160	425	50	315 <sub>-0.5</sub>	355 <sub>-0.5</sub>	1144	1036	1391	630	42 (4x)	340	620	185	–
X3K.170	425	50	315 <sub>-0.5</sub>	355 <sub>-0.5</sub>	1195	1087	1442	630	42 (4x)	340	670	185	–
X3K.180	475	55	335 <sub>-0.5</sub>	370 <sub>-0.5</sub>	1249	1135	1505	670	42 (6x)	390	710	190	215
X3K.190	475	55	335 <sub>-0.5</sub>	370 <sub>-0.5</sub>	1281	1167	1537	670	42 (6x)	390	740	190	215
X3K.200	515	60	375 <sub>-0.5</sub>	420 <sub>-0.5</sub>	1409	1286	1706	750	48 (6x)	420	780	205	230
X3K.210	515	60	375 <sub>-0.5</sub>	420 <sub>-0.5</sub>	1445	1322	1742	750	48 (6x)	420	815	205	230
X3K.220	540	62	425 <sub>-0.5</sub>	465 <sub>-0.5</sub>	1584	1430	1895	850	48	440	910	250	280
X3K.230	540	62	425 <sub>-0.5</sub>	465 <sub>-0.5</sub>	1624	1470	1935	850	48	440	950	250	280
X3K.240	625	68	450 <sub>-0.5</sub>	495 <sub>-0.5</sub>	1721	1597	2092	900	56	510	990	250	305
X3K.250	625	68	450 <sub>-0.5</sub>	495 <sub>-0.5</sub>	1744	1620	2115	900	56	510	1010	250	305
X3K.260	705	73	500 <sub>-0.5</sub>	545 <sub>-0.5</sub>	1900	1767	2312	1017	56	590	1110	300	350
X3K.270	705	73	500 <sub>-0.5</sub>	545 <sub>-0.5</sub>	1935	1802	2347	1017	56	590	1110	300	350
X3K.280	705	73	555 <sub>-0.5</sub>	610 <sub>-0.5</sub>	2052	1854	2464	1127	56	590	1190	360	380
X3K.290	785	86	580 <sub>-0.5</sub>	620 <sub>-0.5</sub>	2187	2021	2641	1177	65	655	1280	330	355
X3K.300	785	86	580 <sub>-0.5</sub>	620 <sub>-0.5</sub>	2216	2050	2670	1177	65	655	1280	330	355
X3K.310	850	86	630 <sub>-0.5</sub>	680 <sub>-0.5</sub>	2410	2135	2815	1277	65	720	1435	385	455
X3K.320	850	86	630 <sub>-0.5</sub>	680 <sub>-0.5</sub>	2444	2169	2849	1277	65	720	1435	385	455

\* for i = 40 – 71 the value for L1 is 210 mm



		Low-speed shaft mm						High-speed shaft mm				Oil volume acc. to lubrication	
W	kg	Ø D	L	OS	T	U	DIN 332 D.M..	Ø D1	L1	T1	U1	Splash	Bath
153	235	80 <sub>m6</sub>	170	343	85	22 <sub>h9</sub>	M20	32 <sub>k6</sub>	80	35	10 <sub>h9</sub>	–	12
153	255	90 <sub>m6</sub>	170	346	95	25 <sub>h9</sub>	M24	32 <sub>k6</sub>	80	35	10 <sub>h9</sub>	–	14
174	360	100 <sub>m6</sub>	210	401	106	28 <sub>h9</sub>	M24	38 <sub>k6</sub>	100	41	10 <sub>h9</sub>	–	20
174	410	110 <sub>m6</sub>	210	404	116	28 <sub>h9</sub>	M24	38 <sub>k6</sub>	100	41	10 <sub>h9</sub>	–	22
202	600	120 <sub>m6</sub>	210	432	127	32 <sub>h9</sub>	M24	50 <sub>k6</sub>	110	53.5	14 <sub>h9</sub>	–	34
202	640	130 <sub>m6</sub>	250	475	137	32 <sub>h9</sub>	M24	50 <sub>k6</sub>	110	53.5	14 <sub>h9</sub>	–	34
240	985	140 <sub>m6</sub>	250	506	148	36 <sub>h9</sub>	M30	60 <sub>m6</sub>	140	64	18 <sub>h9</sub>	59	59
240	1130	160 <sub>m6</sub>	300	556	169	40 <sub>h9</sub>	M30	60 <sub>m6</sub>	140	64	18 <sub>h9</sub>	59	59
277	1400	170 <sub>m6</sub>	300	592	179	40 <sub>h9</sub>	M30	70 <sub>m6</sub>	140	74.5	20 <sub>h9</sub>	74	74
277	1510	170 <sub>m6</sub>	300	592	179	40 <sub>h9</sub>	M30	70 <sub>m6</sub>	140	74.5	20 <sub>h9</sub>	77	77
298	2020	180 <sub>m6</sub>	300	612	190	45 <sub>h9</sub>	M30	80 <sub>m6</sub>	170	85	22 <sub>h9</sub>	105	105
298	2120	190 <sub>m6</sub>	350	662	200	45 <sub>h9</sub>	M30	80 <sub>m6</sub>	170	85	22 <sub>h9</sub>	105	105
331	2890	210 <sub>m6</sub>	350	703	221	50 <sub>h9</sub>	M30	85 <sub>m6</sub>	170	90	22 <sub>h9</sub>	135	135
331	3060	230 <sub>m6</sub>	410	763	241	50 <sub>h9</sub>	M36	85 <sub>m6</sub>	170	90	22 <sub>h9</sub>	139	139
377	3910	230 <sub>m6</sub>	410	811	241	50 <sub>h9</sub>	M36	100 <sub>m6</sub>	210	106	28 <sub>h9</sub>	175	175
377	4040	240 <sub>m6</sub>	410	811	252	56 <sub>h9</sub>	M36	100 <sub>m6</sub>	210	106	28 <sub>h9</sub>	175	175
417	4870	250 <sub>m6</sub>	410	847	262	56 <sub>h9</sub>	M36	110 <sub>m6</sub>	210	116	28 <sub>h9</sub>	279	279
419	5370	270 <sub>m6</sub>	470	920	282	63 <sub>h9</sub>	M36	110 <sub>m6</sub>	210	116	28 <sub>h9</sub>	279	279
419	5870	290 <sub>m6</sub>	470	920	302	63 <sub>h9</sub>	M36	110 <sub>m6</sub>	210	116	28 <sub>h9</sub>	330	330
465	7020	290 <sub>m6</sub>	470	962	302	63 <sub>h9</sub>	M36	120 <sub>m6</sub>	210	127	32 <sub>h9</sub>	432	432
465	7720	300 <sub>m6</sub>	470	962	314	70 <sub>h9</sub>	M36	120 <sub>m6</sub>	210	127	32 <sub>h9</sub>	432	432
499	8570	320 <sub>m6</sub>	470	999	334	70 <sub>h9</sub>	M42	130 <sub>m6</sub>	250*	137	32 <sub>h9</sub>	540	540
499	9470	340 <sub>m6</sub>	550	1079	355	80 <sub>h9</sub>	M42	130 <sub>m6</sub>	250*	137	32 <sub>h9</sub>	540	540





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## How we're driving the world



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