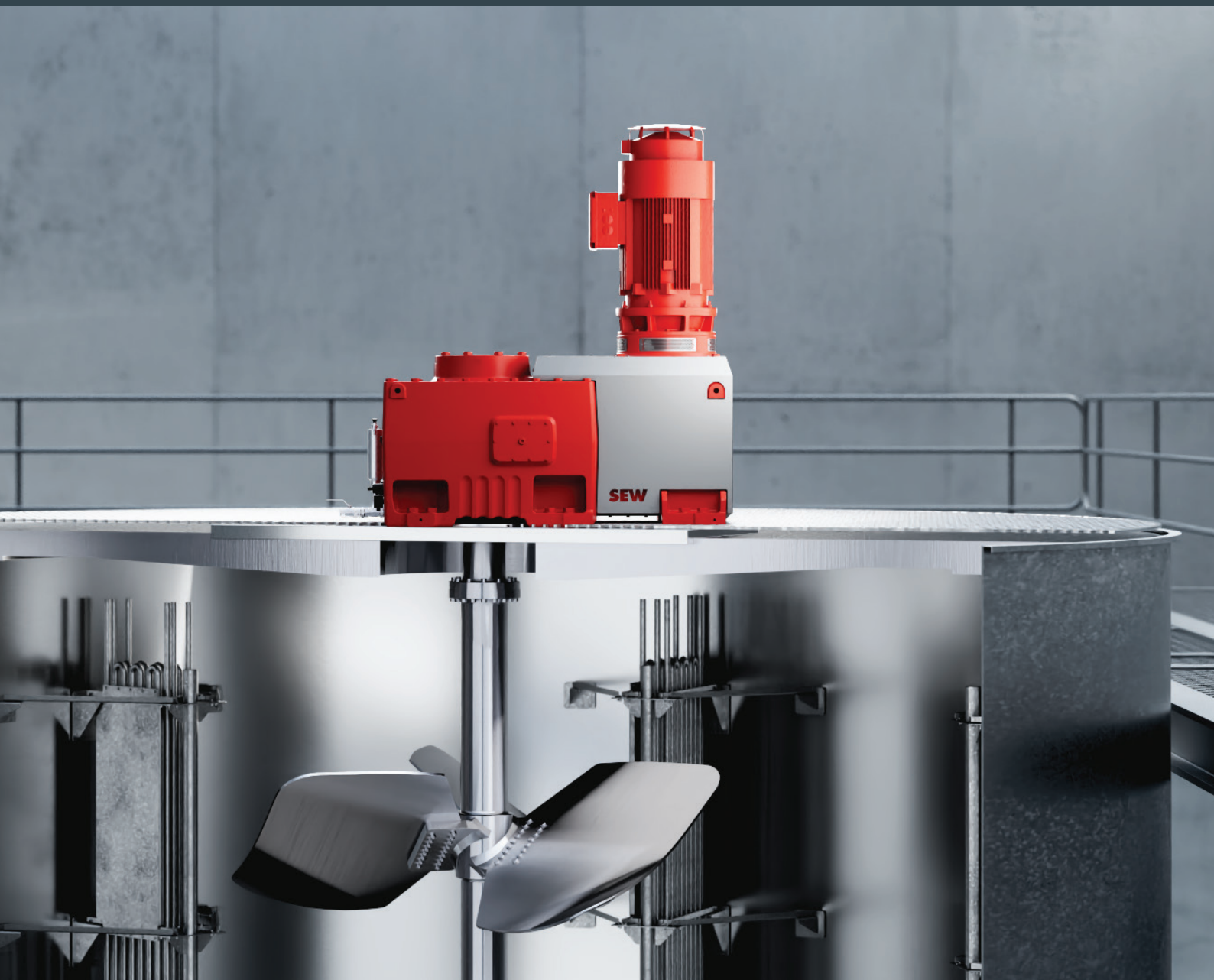
SEW EURODRIVE

Solutions for mixing applications

Heavy Industry Gearing Units



Complete drive systems for your mixing applications

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.

We have your custom solution.

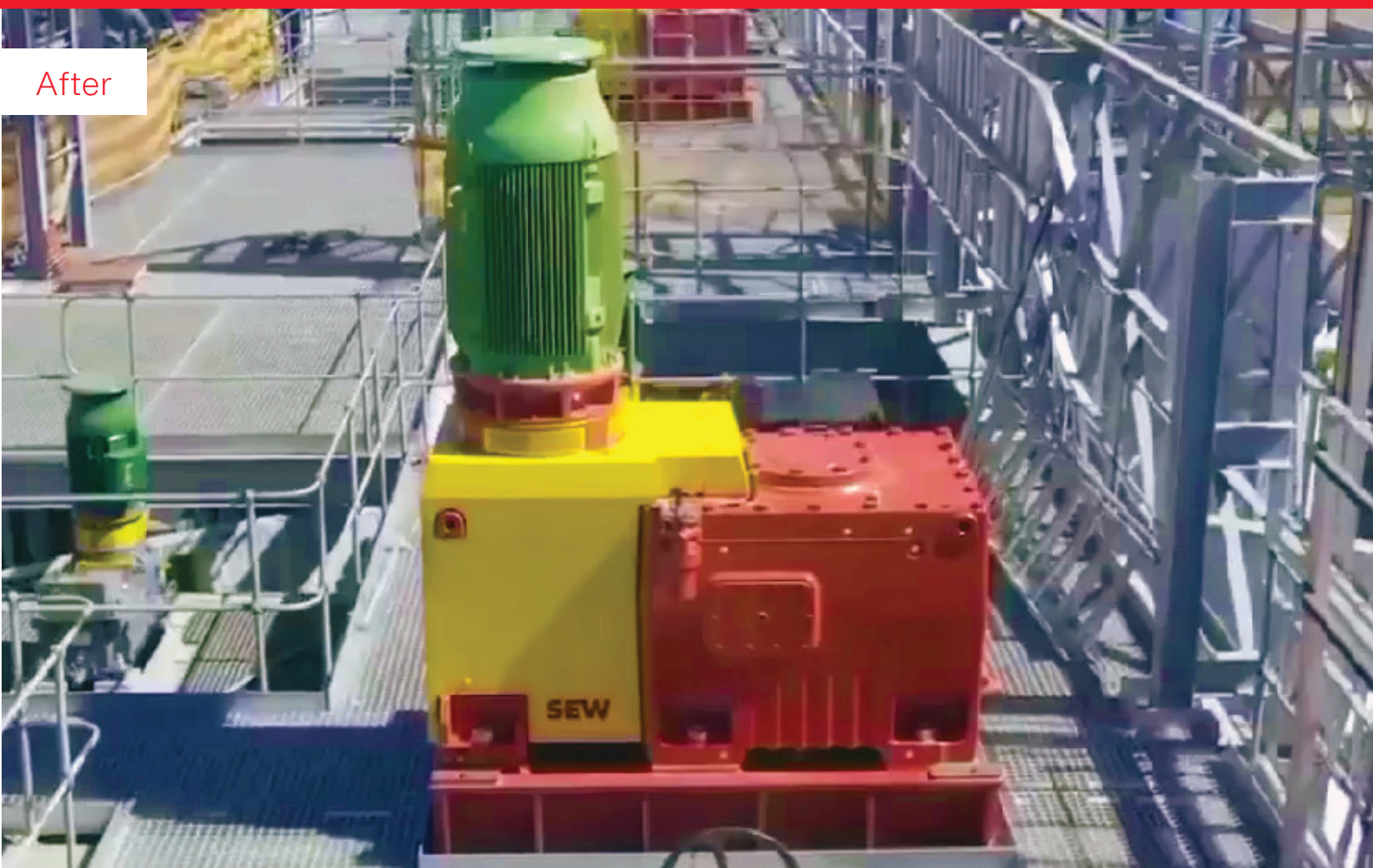
You can rely on us from project planning to commissioning and operation. We are dedicated to supporting you in keeping the total cost of ownership of your agitating system as low as possible. No matter if you need technical calculations, specific documentation — such as quality certificates or project-specific operating instructions, condition monitoring or service on site — SEW-EURODRIVE is your long-term partner.

OUR SOLUTIONS FOR

START NOW!

Get a head start on selecting your agitator. Download and complete our Mixer Drive Selection Worksheet as you explore our brochure.

Engineering | Assembly | Installation | Service



Complete drive systems for your mixing applications

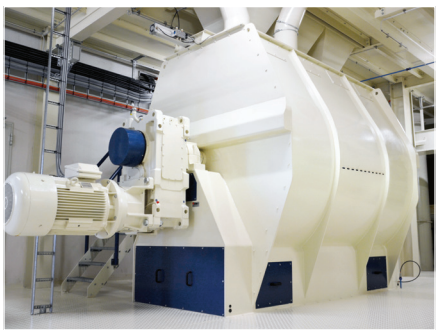
Our gear units can be used wherever a high level of performance is required for mixing and agitating liquid or paste-type substances.

Typical areas of application are the chemical and food industries, waste water treatment, and mining.

Horizontal processes

Twin shaft pharmaceutical mixer

Food mixer



Food mixer

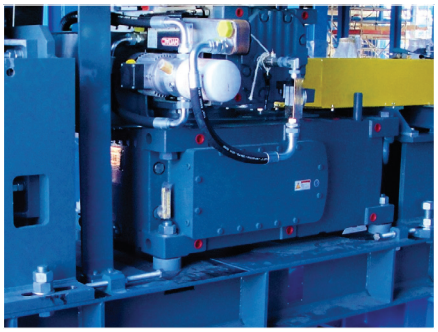
Vertical processes

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 hazardous locations. 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

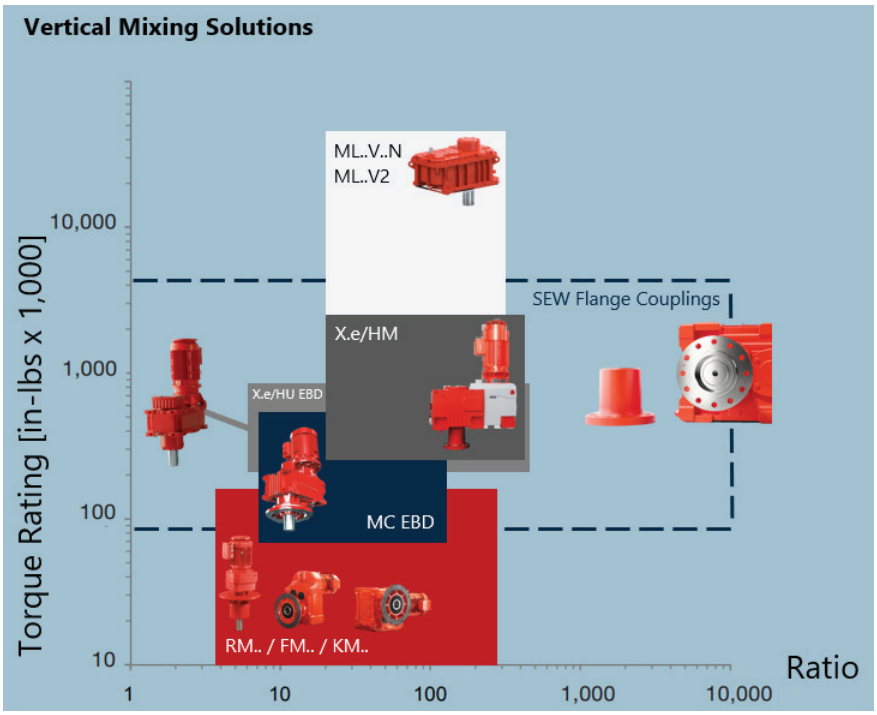
Separator

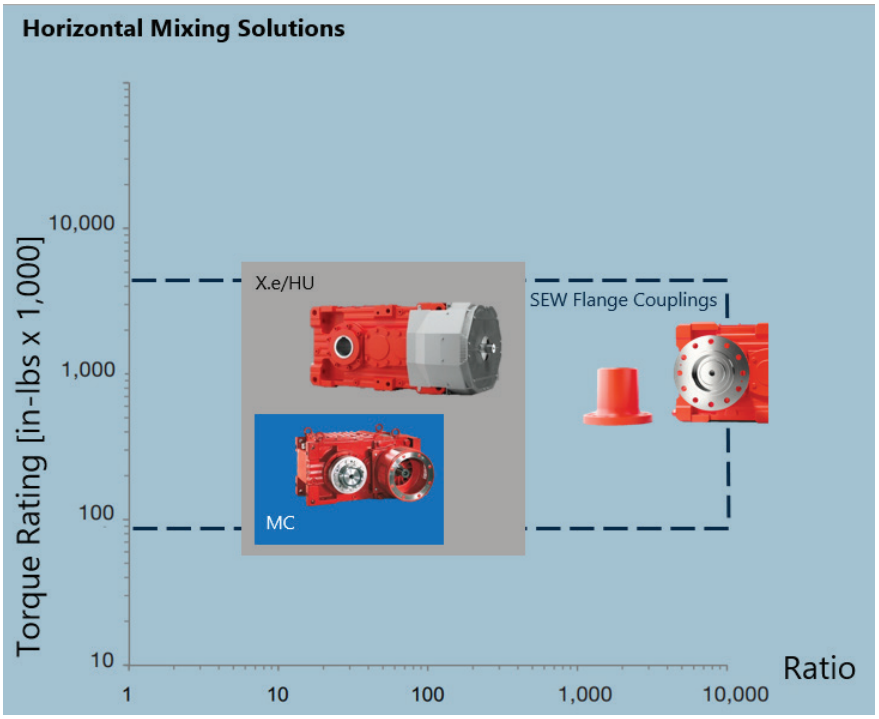
Fertilizer

Aerator

Modular drive systems for varying demands

Select product based off maximum torque and ratio





Mixing Process	Series	Housing Sizes	MN2 Min. [in-lbs x 1,000]	MN2 Max. [in-lbs x 1,000]	Ratio Min.	Ratio Max.	LSS Ø (solid) Min. [mm]	LSS Ø (solid) Max. [mm]	Shaft Layouts
Vertical	RM	10 sizes: 57, 67, 77, 87, 97, 107, 127, 137, 147, 167	4	177	4.29	289.74	35	125	Inline
Vertical	FM	7 sizes: 67, 77, 87, 97, 107, 127, 157	7	177	3.87	281.71	45	120	Offset Parallel
Vertical	KM	7 sizes: 67, 77, 87, 97, 107, 127, 157	7	177	5.2	197.37	45	120	Right-angle
Vertical	MC EBD	8 sizes: 02, 03, 04, 05, 06, 07, 08, 09	70	575	7.1	112	80	180	Parallel, Right-angle
Vertical	X.e/HM	8 sizes: 150e, 170e, 190e, 210e, 220e, 240e, 260e, 280e	258	2,522	20	400(1)	150	320	Parallel
Vertical	X.e/HU EBD	8 sizes: 140e, 150e, 160e, 170e, 180e, 190e, 200e, 210e	207	850	6.3	450	130	210	Parallel, Right-angle
Vertical	ML..V..N ML..V2	6 sizes: 100, 110, 120, 130, 140, 150 8 sizes: 2135, 2140, 2145, 2150, 2155, 2160, 2165, 2170	1,151	13,409	20	315	220	460	Parallel, Right-angle
Vertical	MC	8 sizes: 02, 03, 04, 05, 06, 07, 08, 09	71	575	7.1	112	80	170	Parallel, Right-angle
Horizontal	X.e/HU	23 sizes: 100e, 110e, 120e, 130e, 140e, 150e, 160e, 170e, 180e, 190e, 200e, 210e, 220e, 230e, 240e, 250e, 260e, 270e, 280e, 290e, 300e, 310e, 320e	64	4,425	6.3	450	80	340	Parallel, Right-angle
Both	Flange Coupling	10 sizes: 240, 300, 355, 390, 455, 500, 580, 690, 760, 800	83	4,093	-	-	70	350	-

(1) 112:1 max available ratio for X.e/HM sizes 150e to 210e
Custom shafts available upon request
Custom ratios available upon request

Vertical processes

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

Torque range: 3,960 to 177,000 in-lbs

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
- 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)	3,960 to 177,000 in-lbs	7,260 to 177,000 in-lbs	7,260 to 177,000 in-lbs
Available options	Double oil seal on the output side for additional protection against leaks Grease nipple for further greasing of output shaft bearings The gear units use series housings and series gearing components. The special flange is bolted to the output side of the standard gear unit. Available as gearmotors in energy efficiency classes IE1 to IE4 Motor power range of 0.16 to 270 HP Option of AM.. motor adapter for mounting IEC and NEMA motors Also available for FM../FAM.. and KM../KAM.. series: Reinforced bearings also opposite the output side. These increase the permitted overhung load, particularly for high output speeds and low gear ratios. Drywell design with leak sensor prevents the product from being contaminated by leaking lubricant.		

Characteristics of the X.e series
Torque range: 63,725 to 4,425,373 in-lbs

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.

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.e series
- Drywell, shaft end pump and bearing concepts are fully integrated
- Available in ATEX
- Global product and service availability

X.e series

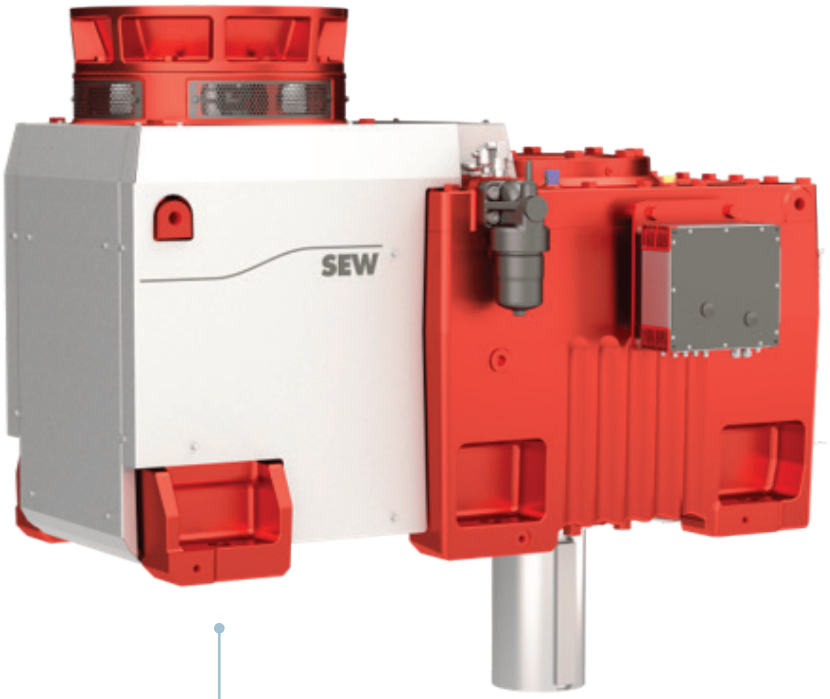
<table>
<tr><th colspan="2">Size and torque capacity</th><th colspan="8">Helical gear units for low, medium and heavy loads</th></tr>
<tr><td>Gear unit size</td><td>Torque class MN2 [in-lbs]</td><td colspan="5">Agitator designs with HU housing</td><td colspan="3">Agitator designs with /HM housing (X3FSM150e...280e/X4FSM220e…280e)</td></tr>
<tr><td>100e</td><td>63,725</td><td rowspan="24">Standard bearings for solid and hollow LSS</td><td rowspan="14">Reinforced bearings for hollow LSS</td><td colspan="2"></td><td></td><td colspan="2"></td><td></td></tr>
<tr><td>110e</td><td>79,657</td><td colspan="2"></td><td></td><td colspan="2"></td><td></td></tr>
<tr><td>120e</td><td>120,370</td><td colspan="2"></td><td></td><td colspan="2"></td><td></td></tr>
<tr><td>130e</td><td>150,463</td><td colspan="2"></td><td></td><td colspan="2"></td><td></td></tr>
<tr><td>140e</td><td>207,107</td><td rowspan="10">EBD-MD Extended bearing distance for moderate duty, solid LSS*</td><td rowspan="10">EBD-HD Extended bearing distance for heavy duty, solid LSS*</td><td></td><td></td><td></td><td></td></tr>
<tr><td>150e</td><td>258,442</td><td></td><td>EBD-MD**</td><td>EBD-HD**</td><td>EBD-HDR**</td></tr>
<tr><td>160e</td><td>336,328</td><td rowspan="9">EBD-HDR Extended bearing distance for heavy radial duty, solid LSS*</td><td></td><td></td><td></td></tr>
<tr><td>170e</td><td>420,410</td><td>EBD-MD**</td><td>EBD-HD**</td><td>EBD-HDR**</td></tr>
<tr><td>180e</td><td>539,895</td><td></td><td></td><td></td></tr>
<tr><td>190e</td><td>610,701</td><td>EBD-MD**</td><td>EBD-HD**</td><td>EBD-HDR**</td></tr>
<tr><td>200e</td><td>734,612</td><td></td><td></td><td></td></tr>
<tr><td>210e</td><td>849,672</td><td>EBD-MD**</td><td>EBD-HD**</td><td>EBD-HDR**</td></tr>
<tr><td>220e</td><td>1,035,537</td><td rowspan="14">Reinforced bearings for solid LSS</td><td colspan="2"></td><td>EBD-MD**</td><td>EBD-HD**</td><td>EBD-HDR**</td></tr>
<tr><td>230e</td><td>1,186,000</td><td colspan="2"></td><td></td><td></td><td></td></tr>
<tr><td>240e</td><td>1,460,373</td><td colspan="2"></td><td>EBD-MD**</td><td>EBD-HD**</td><td>EBD-HDR**</td></tr>
<tr><td>250e</td><td>1,637,388</td><td colspan="2"></td><td></td><td></td><td></td></tr>
<tr><td>260e</td><td>1,920,612</td><td colspan="2"></td><td>EBD-MD**</td><td>EBD-HD**</td><td>EBD-HDR**</td></tr>
<tr><td>270e</td><td>2,230,388</td><td colspan="2"></td><td></td><td></td><td></td></tr>
<tr><td>280e</td><td>2,522,463</td><td colspan="2"></td><td>EBD-MD**</td><td>EBD-HD**</td><td>EBD-HDR**</td></tr>
<tr><td>290e</td><td>2,876,492</td><td colspan="2"></td><td></td><td></td><td></td></tr>
<tr><td>300e</td><td>3,274,776</td><td colspan="2"></td><td></td><td></td><td></td></tr>
<tr><td>310e</td><td>3,982,836</td><td colspan="2"></td><td></td><td></td><td></td></tr>
<tr><td>320e</td><td>4,425,373</td><td colspan="2"></td><td></td><td></td><td></td></tr>
</table>

Consult SEW-EURODRIVE for permitted forces; further sizes available upon request.
*** EBD for hollow LSS is available upon request.**
**** EBD is for solid LSS per standard.**

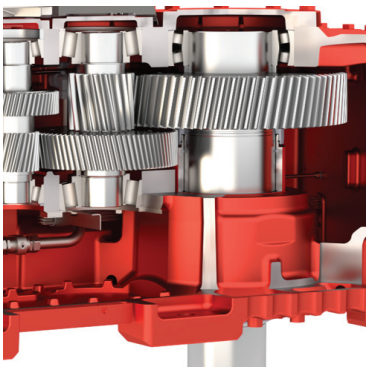
Wide range of available features for the X.e/HM series
Torque range: 258,360 to 2,522,460 in-lbs

Updated!
Agitator design with HM housing

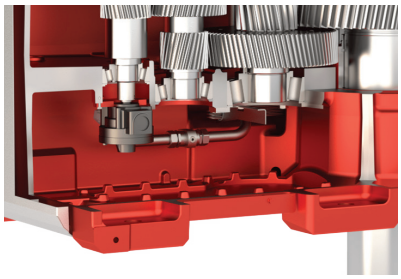
- Integrated drywell sealing
- Integrated pressure lubrication
- X3F or X4F with integrated extended bearing distance (moderate, heavy duty or heavy radial duty)
- Housing thermally optimized
- Designed with consideration of SEW's DriveRadar condition monitoring system
- Application-specific housing with high parting line (above the oil level) prevents oil leakage



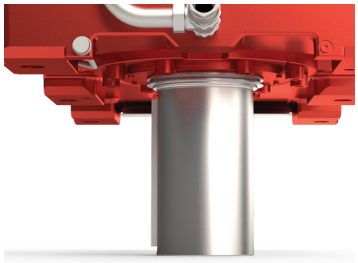
Drywell sealing on the LSS
Extended bearing distance
Increased LSS diameter



Integrated shaft end pump and internal piping for constant lubrication

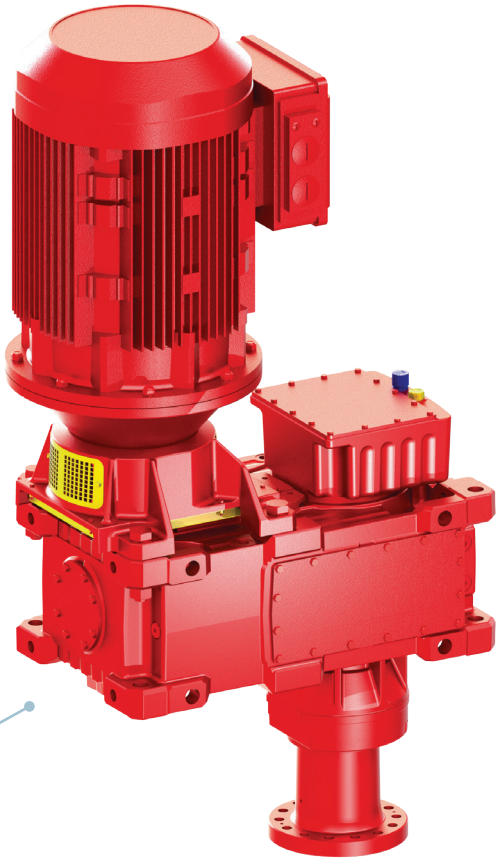


Robust housing for foot mounting, and mounting surface below the sealing system to avoid collisions with application

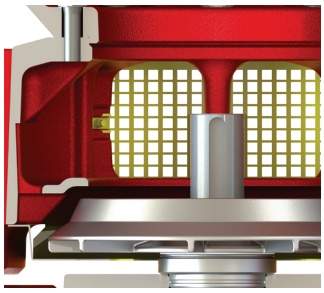


Agitator designs with HU housing

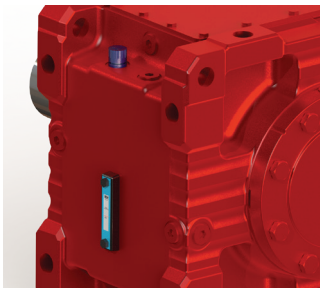
- X.F.e/HU and X.K.e/HU with or without extended bearing distance (moderate, heavy duty or heavy radial duty)



Radial fan in motor adapter

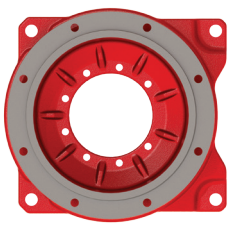


Oil monitoring

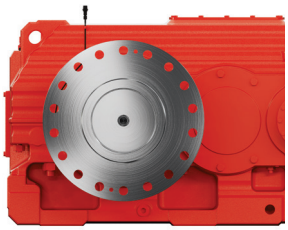


NEMA and IEC motor adapter

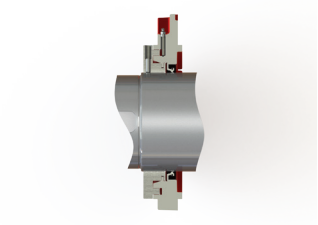
Flange or foot mounting



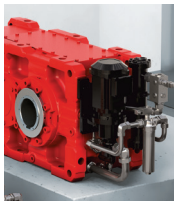
Flange coupling with/without key



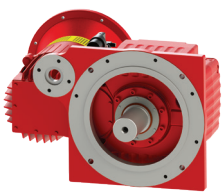
Efficient sealing concepts like Taconite



External cooling systems

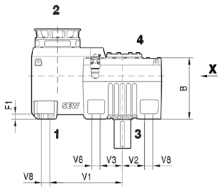


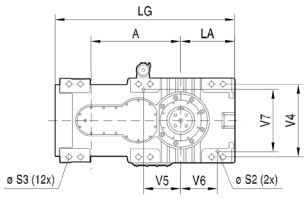
Customized flanges



Facts and figures on the X.e/HM series
Torque range: 258,360 to 2,522,460 in-lbs

280e



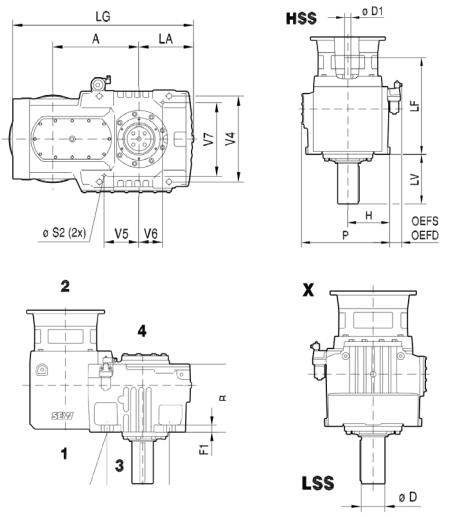


Dimension for HM housing with extended bearing distances

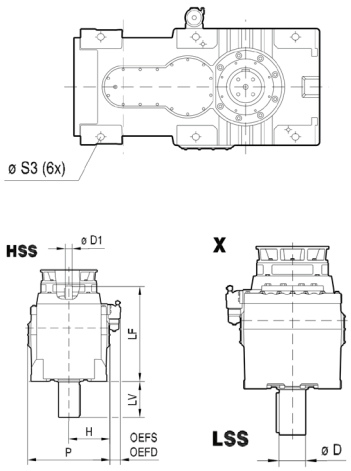
Gear unit	Bearing system	Housing (3-stage) [mm]												
		A	F1	B	H	LA	LG	P	Ø S3	V1	V2	V3	V4	V5
X3FS-M150e/HM	Moderate duty (MD)	544	51	482	308.5	345	1145	650	39	-	190	250	540	220
	Heavy Duty (HD)	544	51	482	308.5	345	1145	650	39	-	190	250	540	220
	Heavy Duty Radial (HDR)	544	51	482	308.5	345	1145	650	39	-	190	250	540	220
X3FS-M170e/HM	Mode rate duty (MD)	662	59	550	330	383	1310	690	45	-	220	300	570	260
	Heavy Duty (HD)	662	59	550	330	383	1310	690	45	-	220	300	570	260
	Heavy Duty Radial (HDR)	662	59	550	330	383	1310	690	45	-	220	300	570	260
X3FS-M190e/HM	Moderate duty (MD)	739	65	637	377	398	1420	785	45	-	230	360	660	320
	Heavy Duty (HD)	739	65	637	377	398	1420	785	45	-	230	360	660	320
	Heavy Duty Radial (HDR)	739	65	637	377	398	1420	785	45	-	230	360	660	320
X3FS-M210e/HM	Moderate duty (MD)	830	72	718	425.5	500	1625	870	52	-	280	380	730	335
	Heavy Duty (HD)	830	72	718	425.5	500	1625	870	52	-	280	380	730	335
	Heavy Duty Radial (HDR)	830	72	718	425.5	500	1625	870	52	-	280	380	730	335
X3FS-M220e/HM	Moderate duty (MD)	934	78	869	443	565	1875	921	6× 52	1105	380	380	760	325
	Heavy Duty (HD)	934	78	869	443	565	1875	921	6× 52	1105	380	380	760	325
	Heavy Duty Radial (HDR)	934	78	869	443	565	1875	921	6× 52	1105	380	380	760	325
X3FS-M240e/HM	Moderate duty (MD)	1027	83	1006	530	636	2075	1060	6× 52	1235	430	430	860	380
	Heavy Duty (HD)	1027	83	1006	530	636	2075	1060	6× 52	1235	430	430	860	380
	Heavy Duty Radial (HDR)	1027	83	1006	530	636	2075	1060	6× 52	1235	430	430	860	380
X3FS-M260e/HM	Moderate duty (MD)	1148	88	1056	560	676	2235	1120	6× 52	1355	460	460	920	410
	Heavy Duty (HD)	1148	88	1056	560	676	2235	1120	6× 52	1355	460	460	920	410
	Heavy Duty Radial (HDR)	1148	88	1056	560	676	2235	1120	6× 52	1355	460	460	920	410
X3FS-M280e/HM	Moderate duty (MD)	1200	88	938	615	655	2270	1230	12× 45	1300	340	430	1040	490
	Heavy Duty (HD)	1200	88	938	615	655	2270	1230	12× 45	1300	340	430	1040	490
	Heavy Duty Radial (HDR)	1200	88	938	615	655	2270	1230	12× 45	1300	340	430	1040	490

The designs shown include the extended bearing distance concept.

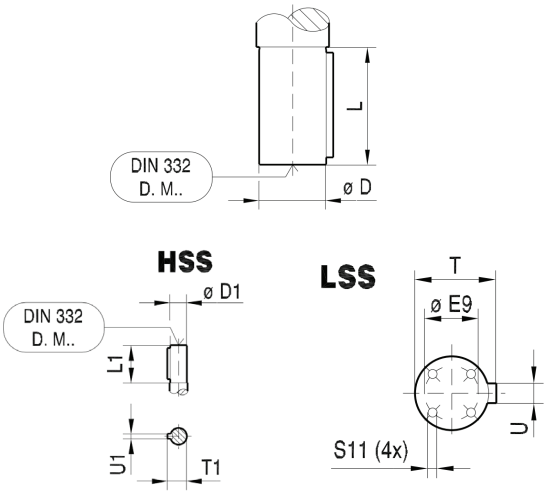
150e-210e



220e-260e



Shafts



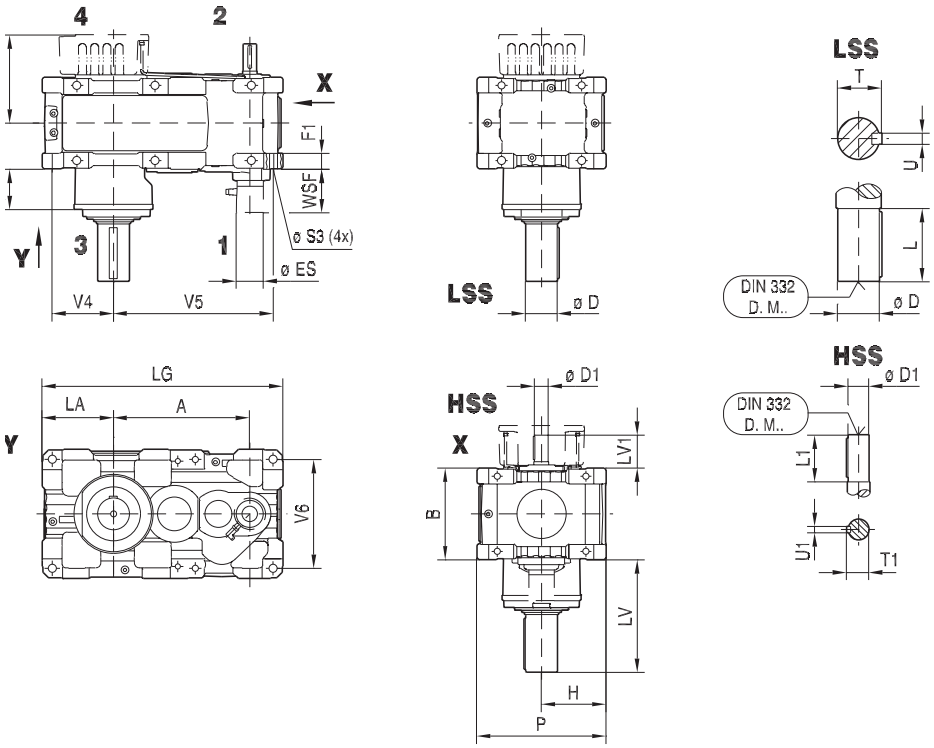
					Low speed shaft (LSS) [mm]							High speed shaft (HSS) [mm]					
	V6	V7	V8	Weight [lbs]	Ø D	L	LV	T	U	S11	Ø E9	Ratio (i)	Ø D1	L1	LF	T1	U1
	150	460	-	1,874	150m6	300	365.5	158	36h9	M24x50	100						
	150	460	-	1,874	150m6	300	365.5	158	36h9	M24x50	100	25...112	45k6	110	649.5	48.5	14h9
	150	460	-	1,874	160m6	300	365.5	169	36h9	M24x50	100						
	180	490	-	2,646	170m6	300	371	179	40h9	M24x40	100						
	180	490	-	2,646	170m6	300	371	179	40h9	M24x40	100	25…71 80…112	60m6 50k6	140 140	750.5 720.5	64 53.5	18h9 14h9
	180	490	-	2,646	180m6	300	371	190	40h9	M24x40	100						
	190	580	-	3,748	190m6	350	425	200	45h9	M24x40	120						
	190	580	-	3,748	190m6	350	425	200	45h9	M24x40	120	22.4…63 71…100	70m6 55m6	140 140	837.5 807.5	74.5 59	20h9 14h9
	190	580	-	3,748	200m6	350	425	210	45h9	M24x40	120						
	235	640	-	5,291	220m6	410	492	231	50h9	M30x50	160						
	235	640	-	5,291	220m6	410	492	231	50h9	M30x50	160	22.4…63 71…100	75m6 60m6	140 140	919.5 919.5	79.5 64	20h9 14h9
	235	640	-	5,291	230m6	410	492	241	50h9	M30x50	160						
	325	650	-	8,267	240m6	410	419.5	252	56h9	M30x50	160						
	325	650	-	8,267	240m6	410	419.5	252	56h9	M30x50	160	22.4…63 71…100	80m6 70m6	170 140	1107 1077	85 74.5	22h9 20h9
	325	650	-	8,267	250m6	410	419.5	262	56h9	M30x50	160						
	380	760	-	11,244	260m6	470	484	272	56h9	M30x50	180						
	380	760	-	11,244	260m6	470	484	272	56h9	M30x50	180	22.4…63 71…100	90m6 75m6	170 140	1245.5 1215.5	95 79.5	25h9 20h9
	380	760	-	11,244	270m6	470	484	282	63h9	M30x50	180						
	410	820	-	13,558	280m6	470	484	292	63h9	M30x50	180						
	410	820	-	13,558	280m6	470	484	292	63h9	M30x50	180	22.4…56 63…100	100m6 80m6	210 170	1336.5 1296.6	106 85	28h9 22h9
	410	820	-	13,558	290m6	470	484	302	63h9	M30x50	180						
	400	940	120	14,881	300m6	470	575.3	314	70h9	M30x50	200						
	400	940	120	14,881	300m6	470	575.3	314	70h9	M30x50	200	25…63 71…112	100m6 80m6	210 170	1218.5 1178.5	106 85	28h9 22h9
	400	940	120	14,881	320m6	470	573.5	334	70h9	M36x60	210						

Facts and figures on the X.e/HU series
Torque range: 63,725 to 4,425,373 in-lbs

Dimension for HU housing with extended bearing distances

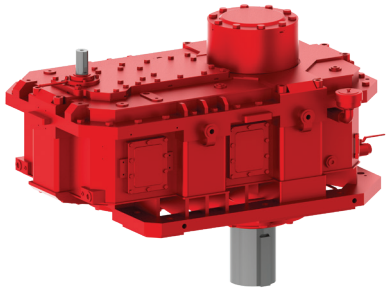
Gear unit size	Bearing system	Housing mm											
		A	B	F1	H	LA	LG	P	Ø S3	V4	V5	V6	WO
X3F.140e/HU	Moderate duty	502	360	67	265	250	903	530	35(4X)	210	613	445	352.0
	Heavy duty	502	360	67	265	250	903	530	35(4X)	210	613	445	352.0
X3F.150e/HU	Moderate duty	544	360	67	265	295	990	530	35(4X)	255	655	445	347.5
	Heavy duty	544	360	67	265	295	990	530	35(4X)	255	655	445	347.5
X3F.160e/HU	Moderate duty	611	425	81	315	355	1144	630	42(4X)	303	737	525	398.0
	Heavy duty	611	425	81	315	355	1144	630	42(4X)	303	737	525	398.0
X3F.170e/HU	Moderate duty	662	425	81	315	355	1195	630	42(4X)	303	788	525	398.0
	Heavy duty	662	425	81	315	355	1195	630	42(4X)	303	788	525	398.0
	Heavy radial duty	662	425	81	315	355	1195	630	42(4X)	303	788	525	398.0
X3F.180e/HU	Moderate duty	707	475	81	335	370	1249	670	42(6X)	318	827	565	463.5
	Heavy duty	707	475	81	335	370	1249	670	42(6X)	318	827	565	463.5
	Heavy radial duty	707	475	81	335	370	1249	670	42(6X)	318	827	565	463.5
X3F.190e/HU	Moderate duty	739	475	81	335	370	1281	670	42(6X)	318	859	565	463.5
	Heavy duty	739	475	81	335	370	1281	670	42(6X)	318	859	565	463.5
	Heavy radial duty	739	475	81	335	370	1281	670	42(6X)	318	859	565	463.5
X3F.200e/HU	Moderate duty	794	515	91	375	420	1409	750	48(6X)	360	930	630	501.0
	Heavy duty	794	515	91	375	420	1409	750	48(6X)	360	930	630	501.0
	Heavy radial duty	794	515	91	375	420	1409	750	48(6X)	360	930	630	501.0
X3F.210e/HU	Moderate duty	830	515	91	375	420	1445	750	48(6X)	360	966	630	501.0
	Heavy duty	830	515	91	375	420	1445	750	48(6X)	360	966	630	501.0
	Heavy radial duty	830	515	91	375	420	1445	750	48(6X)	360	966	630	501.0

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					
	CFF	WSF	Ø ES	Weight [lbs]	Ø D	L	LV	T	U	ratio i	Ø D1	L1	LV1	T1	U1
	149.0	192.0	140	1,345	130_{m6}	250	456.0	137	32_{h9}	≥20	45_{k6}	110	152.5	48.5	14_{h9}
	149.0	192.0	140	1,345	130_{m6}	250	493.0	137	32_{h9}						
	186.0	192.0	140	1,433	150_{m6}	300	545.5	158	36_{h9}	≥25	45_{k6}	110	152.5	48.5	14_{h9}
	186.0	192.0	140	1,433	150_{m6}	300	545.5	158	36_{h9}						
	190.5	212.5	140	2,205	160_{m6}	300	551.5	169	40_{h9}	≤56	60_{k6}	140	185.5	64.0	18_{h9}
	190.5	212.5	140	2,205	160_{m6}	300	551.5	169	40_{h9}	≥63	50_{k6}	110	155.5	53.5	14_{h9}
	190.5	212.5	140	2,524	160_{m6}	300	551.5	169	40_{h9}	≤71	60_{k6}	140	185.5	64.0	18_{h9}
	190.5	212.5	140	2,524	160_{m6}	300	551.5	169	40_{h9}	≥80	50_{k6}	110	155.5	53.5	14_{h9}
	190.5	212.5	140	2,524	170_{m6}	300	551.5	179	40_{h9}						
	210.5	217.5	140	3,120	170_{m6}	300	577.5	179	40_{h9}	≤56	70_{k6}	140	185.5	74.5	20_{h9}
	210.5	217.5	140	3,120	170_{m6}	300	577.5	179	40_{h9}	≥63	55_{k6}	110	155.5	59.0	16_{h9}
	210.5	217.5	140	3,120	180_{m6}	300	577.5	190	45_{h9}						
	210.5	217.5	140	3,362	170_{m6}	300	577.5	179	40_{h9}	≤63	70_{k6}	140	185.5	74.5	20_{h9}
	210.5	217.5	140	3,362	170_{m6}	300	577.5	179	40_{h9}	≥71	55_{k6}	110	155.5	59.0	16_{h9}
	210.5	217.5	140	3,362	180_{m6}	300	577.5	190	45_{h9}						
	225.5	215.0	140	4,497	200_{m6}	350	659.5	210	45_{h9}	≤56	75_{k6}	140	187.0	79.5	20_{h9}
	225.5	215.0	140	4,497	200_{m6}	350	659.5	210	45_{h9}	≥63	60_{k6}	140	187.0	64.0	18_{h9}
	225.5	215.0	140	4,497	210_{m6}	350	659.5	221	50_{h9}						
	225.5	215.0	140	4,718	200_{m6}	350	659.5	210	45_{h9}	≤63	75_{k6}	140	187.0	79.5	20_{h9}
	225.5	215.0	140	4,718	200_{m6}	350	659.5	210	45_{h9}	≥71	60_{k6}	140	187.0	64.0	18_{h9}
	225.5	215.0	140	4,718	210_{m6}	350	659.5	221	50_{h9}						

Facts and figures on the ML..V..N and ML..V2 series
Torque range: 1,150,609 - 13,409,023 in-lbs



Customer-specific applications and tailor-made solutions must also be implementable for large machines and systems. The ML..V..N and ML..V2 series meet the specific requirements in the upper torque range from 1,150,609 to 13,409,023 in-lbs and ensure the highest level of flexibility and variability.

ML..V..N series

Nominal output torque [in-lbs]							Nominal ratio	
Gear unit size	100	110	120	130	140	150	Min	Max
ML3PV..N	1,327,626	1,867,527	2,549,042	3,575,739	4,947,620	6,903,655	20	80
ML4PV..N	1,433,836	2,044,544	2,858,821	4,106,790	5,779,599	8,133,922	71	315
ML3RV..N	1,150,609	1,646,256	2,239,263	3,133,197	4,248,403	6,408,008	14	71
ML4RV..N	1,407,284	2,000,290	2,849,970	3,974,027	5,505,222	7,691,380	63	280

ML..V2 series

Nominal output torque [in-lbs]									Nominal ratio	
Gear unit size	2135	2140	2145	2150	2155	2160	2165	2170	Min	Max
ML4PV..	5,142,338	5,859,256	-	-	-	-	-	-	71	315
ML4RV..	5,089,233	5,797,300	6,797,445	7,337,346	8,647,271	10,408,588	11,984,037	13,409,023	71	280

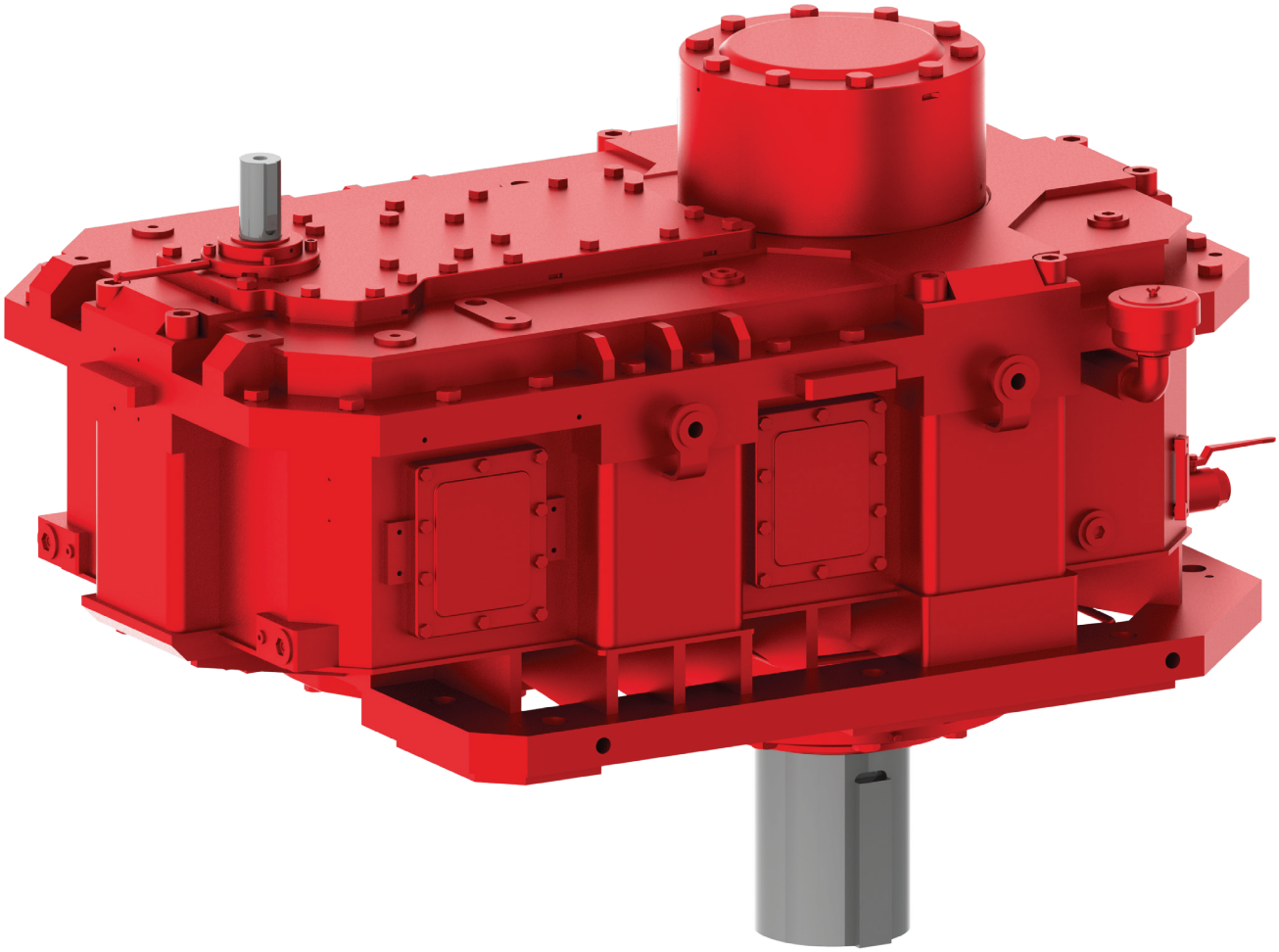
Features

- 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

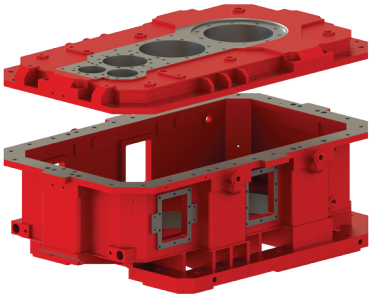
Benefits

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

Facts and figures on the ML..V..N and ML..V2 series
Torque range: 1,150,609 - 13,409,023 in-lbs

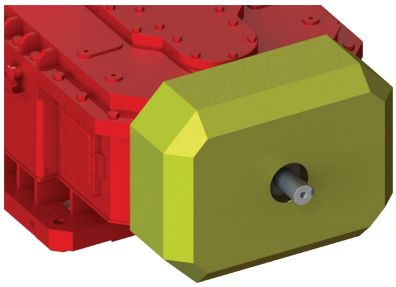


Vertical housing for agitator

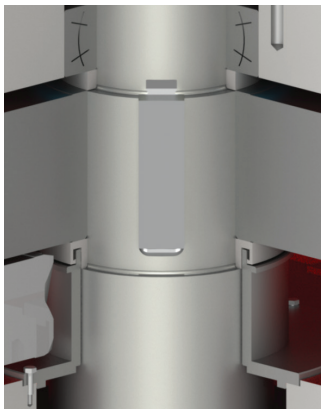


Extended bearing distance for high radial load capacity

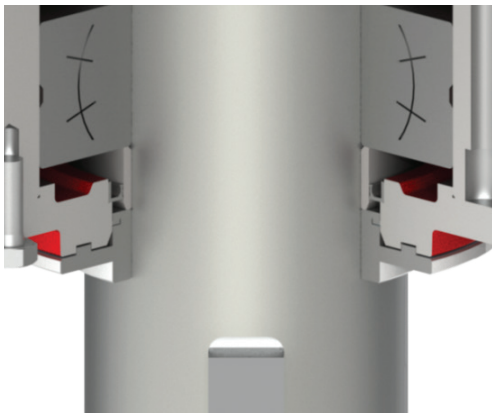
Efficient fan cooling



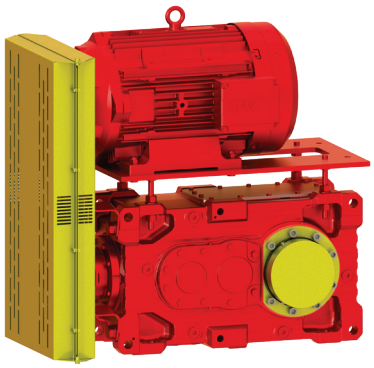
Drywell sealing on LSS



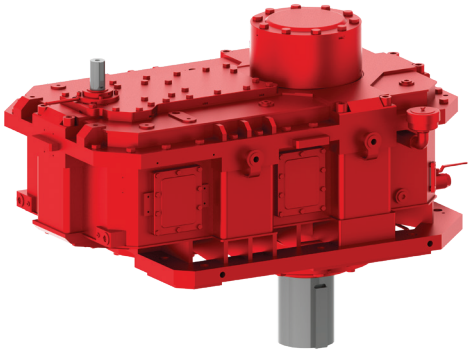
Taconite seals for extreme conditions



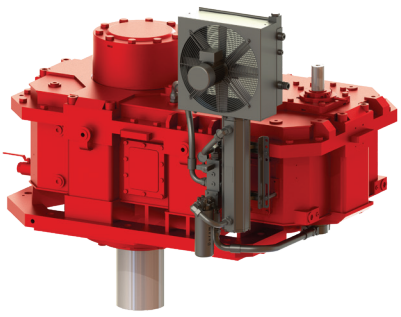
V-belt solution



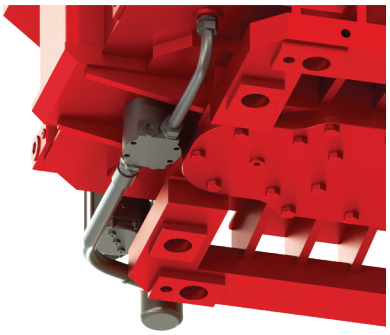
Robust expansion tank for bath lubrication



External cooling by air or water for severe conditions



Pressure lubrication with shaft end pump or motor pump

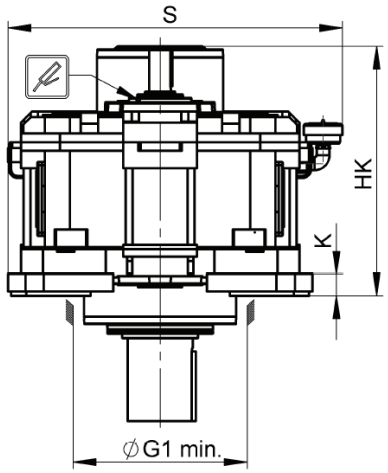


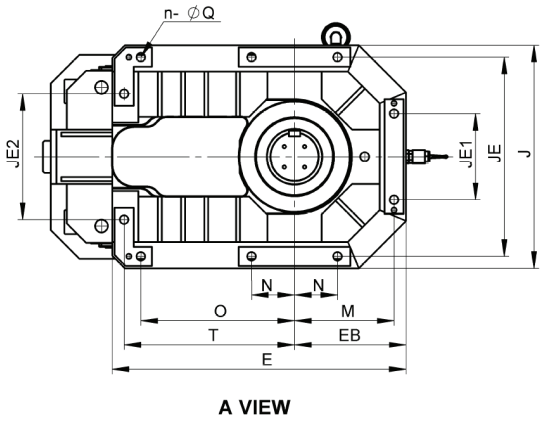
Many more options are available for the drive package

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

Facts and figures on the ML3PV..N series

Torque range: 1,327,626 - 6,903,655 in-lbs



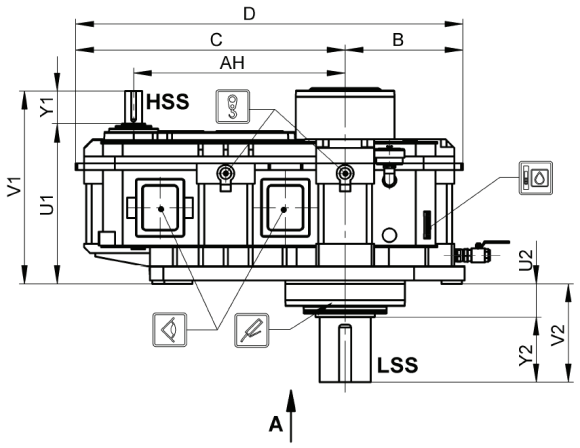


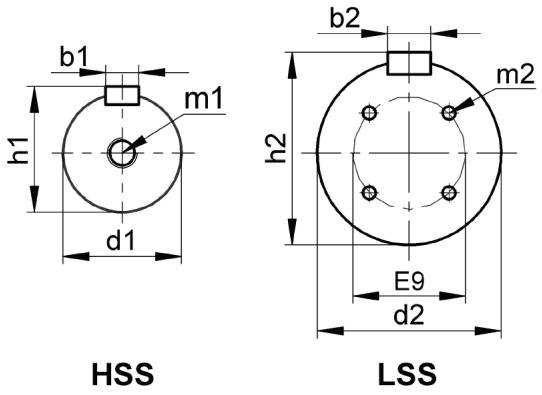
A VIEW

Dimension drawings

Gear Unit Size	Housing dimensions [mm]											
	AH	B	C	D	E	EB	J	HK	S	R	JE	JE1
ML3PV..100N	990	575	1265	1840	1492	585	1170	~913	~1309	~706	1050	420
ML3PV..110N	1105	620	1410	2030	1645	630	1260	~1032	~1399	~778	1130	510
ML3PV..120N	1240	690	1580	2270	1845	700	1400	~1143	~1539	~848	1250	540
ML3PV..130N	1395	750	1775	2525	2065	765	1530	~1268	~1668	~908	1380	700
ML3PV..140N	1565	835	1965	2800	2280	845	1690	~1418	~1828	~993	1540	700
ML3PV..150N	1760	905	2190	3095	2535	915	1830	~1528	~1972	~1063	1670	750

See the full product catalogs (20093756 and 26873427) for additional dimensions and modular options



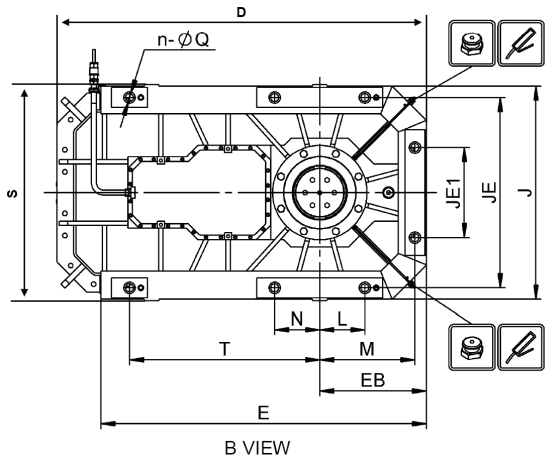


Keys: ISO773/2491
DIN6885

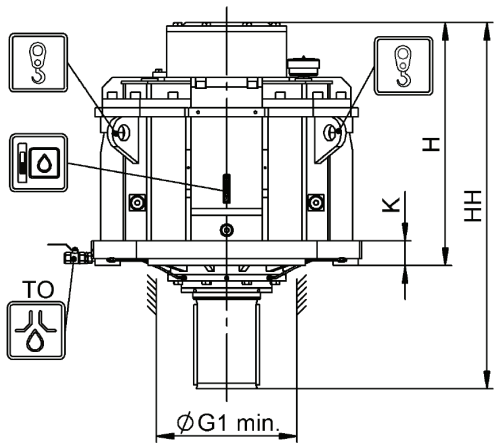
	Low speed shaft (LSS) [mm]						High speed shaft (HSS) [mm]						Weight [lbs]
JE2	U2	Y2	V2	d2	b2	h2	Ratio	U1	Y1	V1	d1	b1	
-	170	280	450	220	50	231	20…40 45…80	765	150 125	915 890	85 75	22 20	9,535
-	185	330	515	260	56	272	20…40 45…80	855	150 150	1005 1005	95 85	25 22	12,842
790	195	380	575	300	70	314	20…45 50…80	935	190 150	1125 1085	100 90	28 25	17,879
790	165	450	615	360	80	375	20…50 56…80	1030	190 190	1220 1220	110 100	28 28	23,942
960	180	540	720	400	90	417	20…45 50…80	1120	225 190	1345 1310	130 110	32 28	32,584
950	180	540	720	420	90	437	20…45 50…80	1235	225 190	1460 1425	140 120	36 32	41,623

Facts and figures on the ML4PV..2 series

Torque range: 5,142,338 to 5,859,256 in-lbs



B VIEW

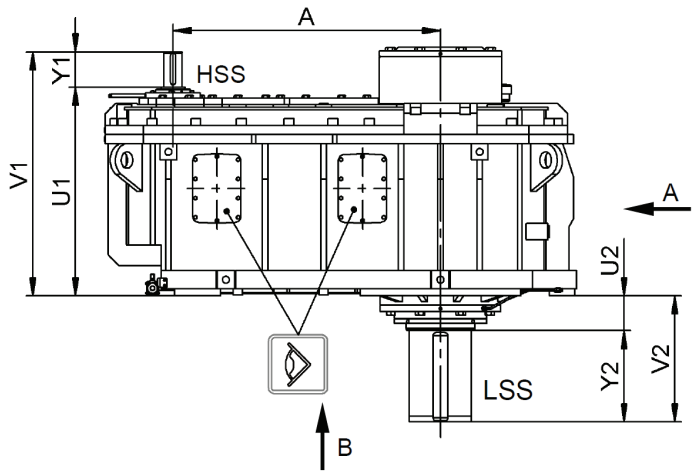


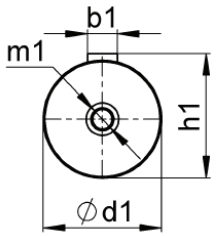
A VIEW

Dimension drawings

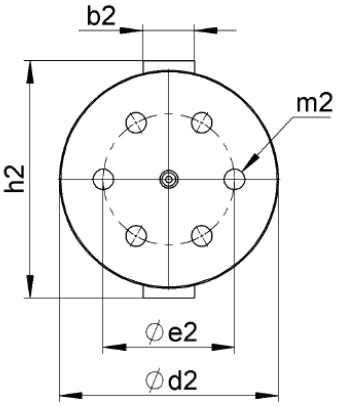
Gear unit size	Housing dimensions [mm]												
	A	D	E	EB	ØG1 min	H	HH	S	TO	J	JE	JE1	K
ML4PV..2135	1465	2581	2275	745	850	1355	2045	1664	G1-1/2	1490	1330	630	138
ML4PV..2140	1505	2661	2340	785	850	1371	2061	1744	G1-1/2	1570	1400	650	142

See the full product catalogs (20093756 and 26873427) for additional dimensions and modular options





HSS



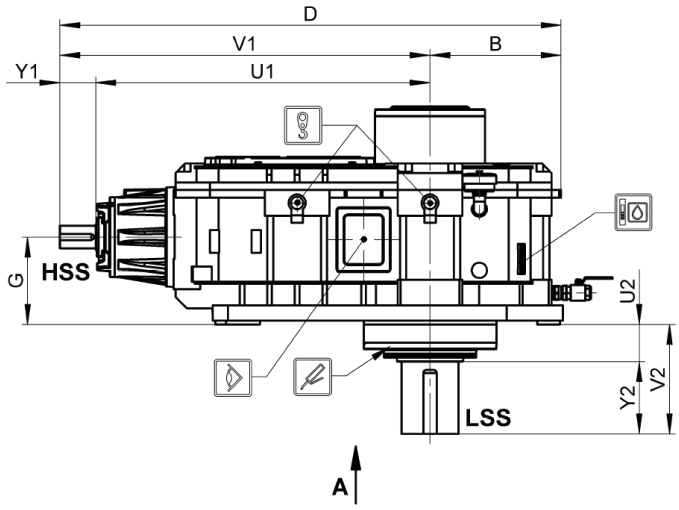
LSS

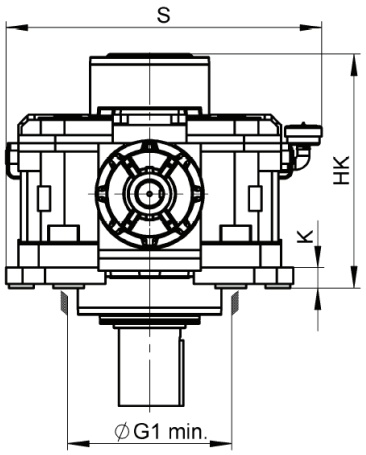
Keys: ISO773/2491

	Low speed shaft (LSS) [mm]						High speed shaft (HSS) [mm]						Weight [lbs]
	U2	Y2	V2	Ød2	b2	h2	Ratio	U1	Y1	V1	Ød1	b1	
	190	500	690	340m6	80h9	370	71…315	1140	190	1330	100m6	28h9	29,101
	190	500	690	340m6	80h9	370	71…315	1160	190	1350	100m6	28h9	30,864

Facts and figures on the ML3RV..N series

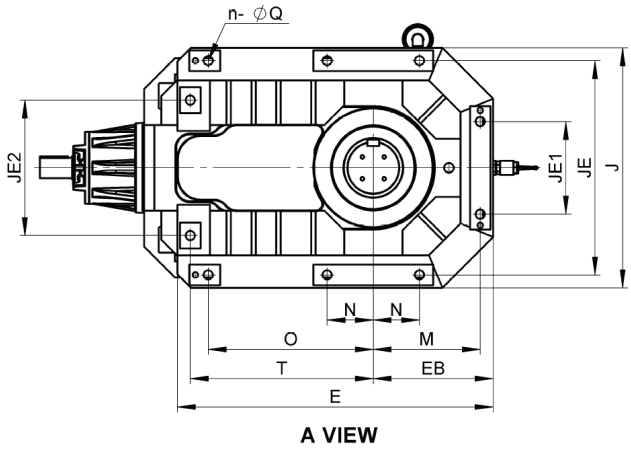
Torque range: 1,150,609 to 6,408,008 in-lbs



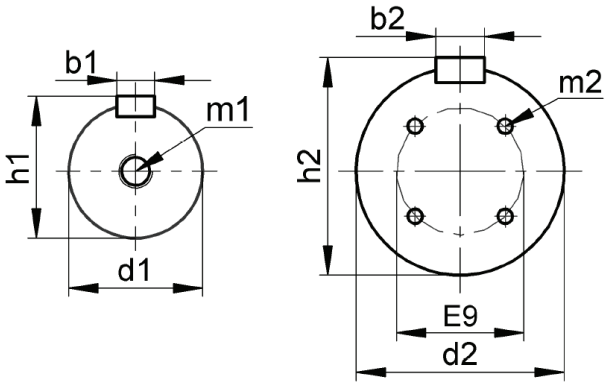


Gear unit size	Ratio	Housing dimensions [mm]											
		D	B	E	EB	G	J	HK	S	R	JE	JE1	JE2
ML3RV..100N	14…63 71	2145 2105	575	1492	585	355	1170	~913	~1309	~706	1050	420	-
ML3RV..110N	14…56 63…71	2360 2320	620	1645	630	425	1260	~1032	~1399	~778	1130	510	-
ML3RV..120N	14…56 63…71	2640 2640	690	1845	700	460	1400	~1143	~1539	~848	1250	540	790
ML3RV..130N	14…56 63…71	2880 2845	750	2065	765	515	1530	~1268	~1668	~908	1380	700	790
ML3RV..140N	14…63 71	3160 3125	835	2280	845	570	1690	~1418	~1828	~993	1540	700	960
ML3RV..150N	14…71	3455	905	2535	915	650	1830	~1528	~1972	~1063	1670	750	950

See the full product catalogs (20093756 and 26873427) for additional dimensions and modular options



A VIEW



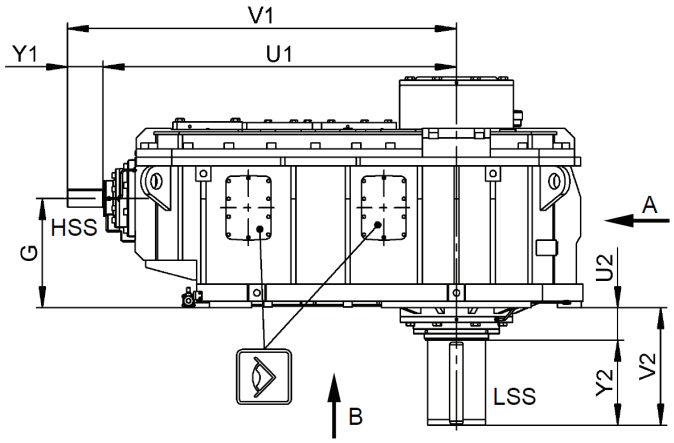
HSS LSS

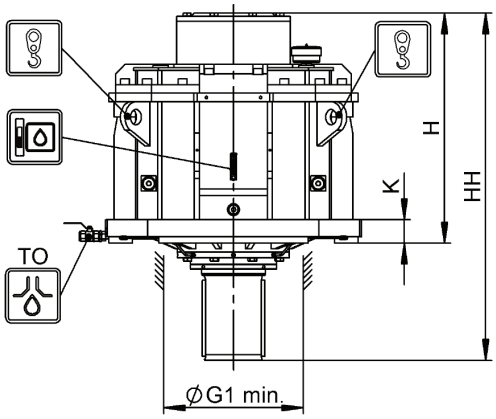
Keys: ISO773/2491
DIN6885

	Low speed shaft (LSS) [mm]						High speed shaft (HSS) [mm]						Weight [lbs]
	U2	Y2	V2	d2	b2	h2	Ratio	U1	Y1	V1	d1	b1	
	170	280	450	220	50	231	14…63 71	1380	190 150	1570 1530	100 85	28 22	9,987
	185	330	515	260	56	272	14…56 63…71	1550	190 150	1740 1700	110 90	28 25	13,415
	195	380	575	300	70	314	14…56 63…71	1760	190 190	1950 1950	120 100	32 28	18,915
	165	450	615	360	80	375	14…56 63…71	1905	225 190	2130 2095	130 110	32 28	25,110
	180	540	720	400	90	417	14…63 71	2100	225 190	2325 2290	140 120	36 32	33,995
	180	540	720	420	90	437	14…50 56…71	2325	225 225	2550 2550	150 130	36 32	42,461

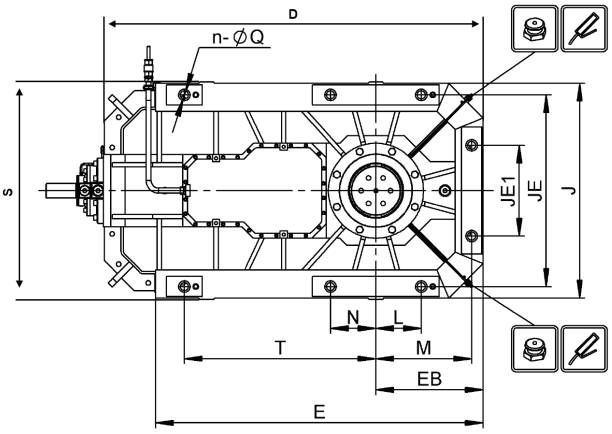
Facts and figures on the ML4RV..2 series

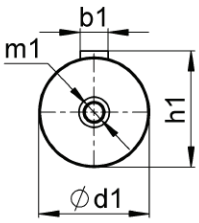
Torque range: 5,089,233 to 13,409,023 in-lbs



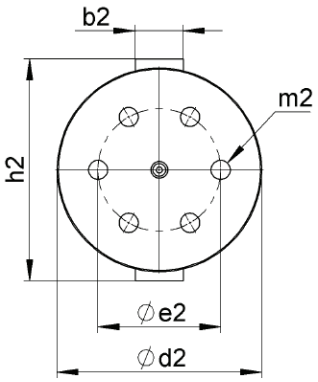


Gear unit size	Ratio	Housing dimensions [mm]										
		D	E	EB	G	H	HH	S	TO	J	JE	JE1
ML4RV..2135	71…280	3035	2275	745	640	1355	2045	1624	G1-1/2	1490	1330	630
ML4RV..2140	71…280	3115	2340	785	650	1371	2061	1704	G1-1/2	1570	1400	650
ML4RV..2145	71…280	3202	2440	820	660	1420	2110	1774	G1-1/2	1640	1470	670
ML4RV..2150	71…280	3311	2545	855	710	1481	2182	1844	G1-1/2	1710	1540	750
ML4RV..2155	71…280	3560	2690	900	735	1546	2341	1934	G1-1/2	1800	1630	760
ML4RV..2160	71…280	3709	2845	940	775	1617	2402	2014	G1-1/2	1880	1710	800
ML4RV..2165	71…280	4035	2965	975	800	1680	2475	2084	G1-1/2	1950	1780	840
ML4RV..2170	71…280	4170	3090	1020	840	1744	2549	2174	G1-1/2	2040	1870	900





HSS



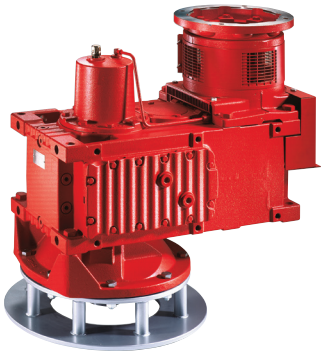
LSS

Keys: ISO773/2491

		Low speed shaft (LSS) [mm]						High speed shaft (HSS) [mm]						Weight [lbs]
	K	U2	Y2	V2	Ød2	b2	h2	Ratio	U1	Y1	V1	Ød1	b1	
	138	190	500	690	340m6	80h9	370	71…280	2080	210	2290	100m6	28h9	29,542
	142	190	500	690	340m6	80h9	370	71…280	2120	210	2330	100m6	28h9	31,526
	143	190	500	690	360m6	80h9	390	71…280	2172	210	2382	100m6	28h9	34,612
	160	190	510	701	380m6	80h9	410	71…280	2246	210	2456	100m6	28h9	40,344
	161	200	595	795	400m6	90h9	434	71…280	2450	210	2660	110m6	28h9	46,738
	170	190	595	785	420m6	90h9	454	71…280	2559	210	2769	110m6	28h9	54,233
	172	200	595	795	440m6	90h9	474	71…280	2810	250	3060	130m6	32h9	61,729
	173	210	595	805	460m6	100h9	498	71…280	2900	250	3150	130m6	32h9	71,650

Facts and figures of the MC series

Torque range: 70,806 - 575,299 in-lbs

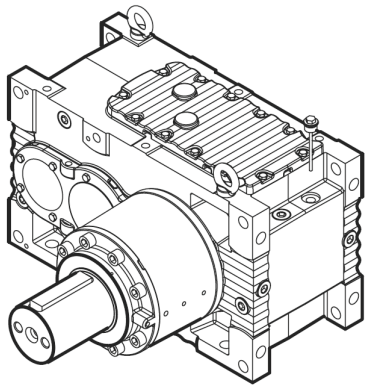


The proven MC series's extended bearing design is optimal for industrial mixing and agitating applications. Modular mounting options and features make the MC EBD an excellent engineered solution.

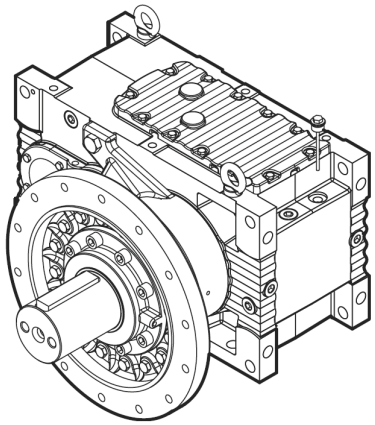
- Extended bearing distance and reinforced bearing options
- Drywell sealing (sizes 04...09)
- Solid and hollow output shaft options
- 2 and 3 stage ratios

MC.P Parallel and MC.R Right-angle Series

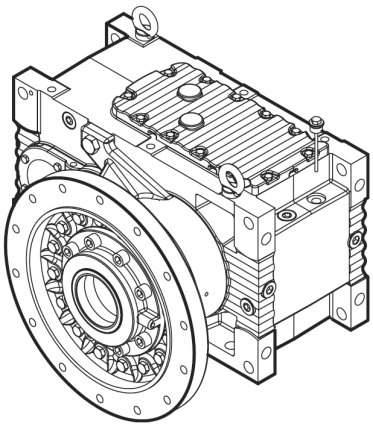
Size and torque capacity			Basic dimensions				
Gear unit size	Torque class MN2 [in-lbs	Ratio	Standard Solid LSS Ø [mm]	Solid EBD LSS Ø [mm]	Standard Hollow LSS Ø [mm]	Hollow EBD LSS Ø [mm]	Weight [lbs]
02	70,806	7.1…112	80	80 or 95	80	75	600
03	101,784		100	95 or 115	95	90	791
04	137,187		105	105 or 125	105	100	1,060
05	177,015		120	120 or 135	115	110	1,373
06	221,269		130	125 or 150	125	120	1,638
07	309,776		140	160	135	130	2,079
08	407,135		160	170	150	140	2,762
09	575,299		170	180	165	150	3,289



Solid LSS for foot mounting (EN)



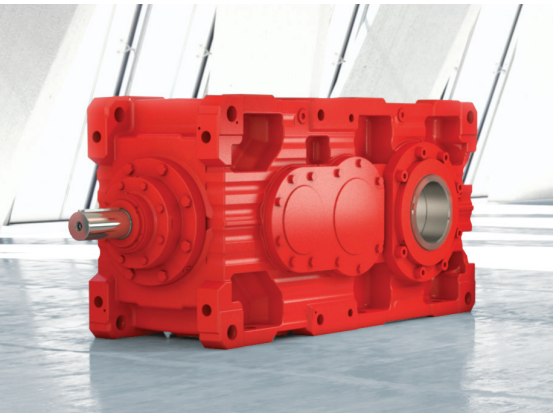
Solid LSS for flange mounting (EF)



Hollow LSS for flange mounting (EF)

	Parallel and right-angle gear units for moderate, high, and very high loads						
	Standard bearing distance		Extended bearing distance (EBD)			Drywell sealing on EBD LSS	Gear unit size
	Standard bearings and standard bearing distance for solid and hollow LSS	Reinforced bearings and standard bearing distance for hollow LSS	Solid LSS and EBD design for high radial load and very high axial load For flange mounting (EF)	Solid LSS and EBD design for very high radial load and high axial load For flange (EF) or foot mounting (EN)	Hollow LSS and EBD design for high radial load and high axial load For flange mounting (EF)		02
							03
						Drywell sealing option to prevent EBD LSS oil leakage	04
							05
							06
							07
							08
							09

Horizontal processes



Characteristics of the X.e series

Torque range: 63,725 to 4,425,373 in-lbs

With finely stepped sizes, the X.e series from SEW-EURODRIVE covers torques ranging from 63,720 to 4,425,360 in-lbs. 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 MN2 [in-lbs]**	**Gear unit size**	**Torque class MN2 [in-lbs]**
100e	63,725	220e	1,035,537
110e	79,657	230e	1,186,000
120e	120,370	240e	1,460,373
130e	150,463	250e	1,637,388
140e	207,107	260e	1,920,612
150e	258,442	270e	2,230,388
160e	336,328	280e	2,522,463
170e	420,410	290e	2,876,492
180e	539,895	300e	3,274,776
190e	610,701	310e	3,982,836
200e	734,612	320e	4,425,373
210e	849,672	-	-

Features

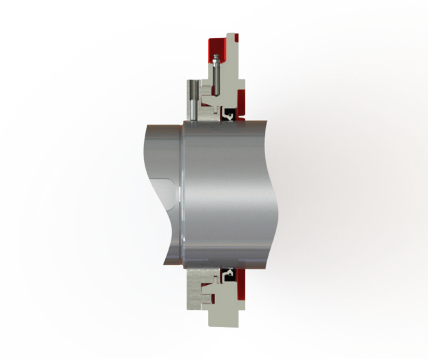
- Standardized helical and bevel units for all agitating processes
- Invertible gear unit housing
- Modular technology
- Great number of variants due to predefined options
- Customization

Benefits

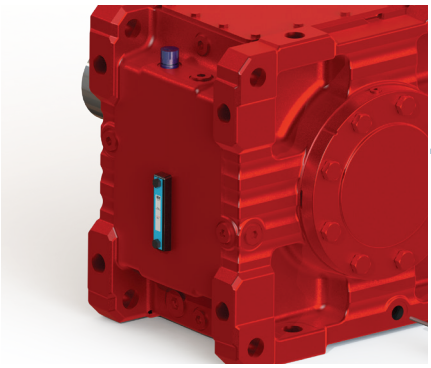
- Short delivery time for standard versions and spare parts
- Extremely robust design
- Reduced costs and weight due to high power density
- Effective cooling systems
- Available in ATEX
- Worldwide service

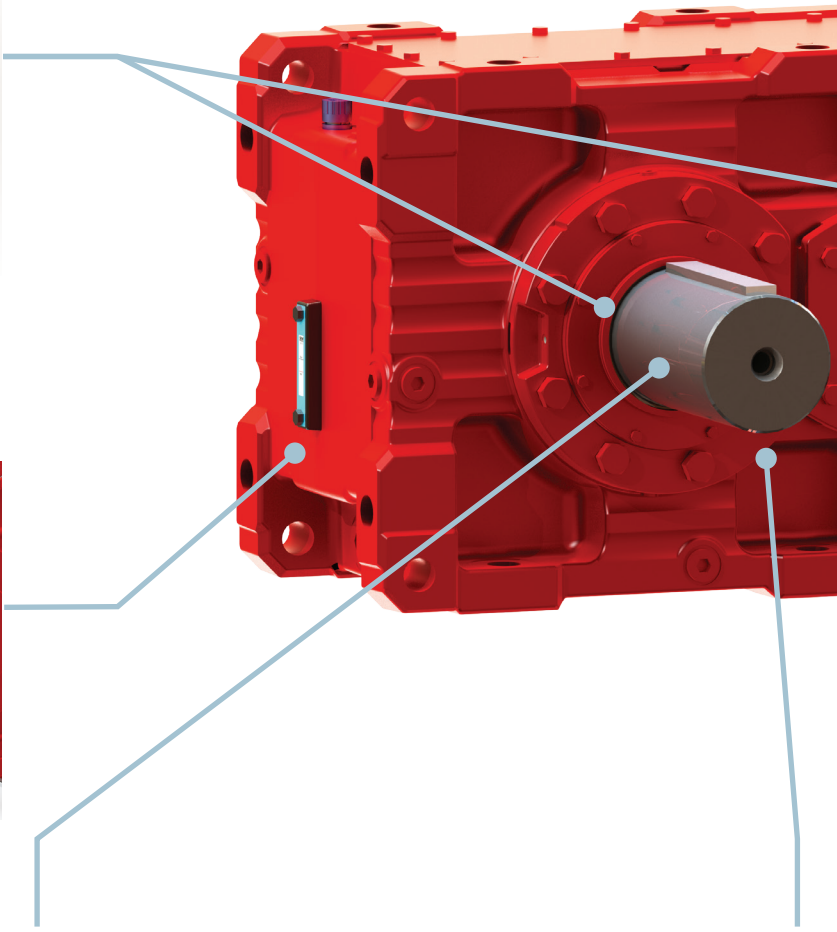
Wide range of available features for the X.e series
Torque range: 63,720 to 4,425,360 in-lbs

Efficient sealing concepts like Taconite

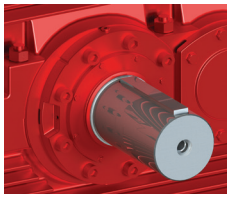


Oil monitoring

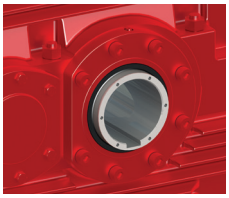




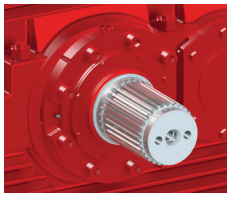
Versatile shaft concepts



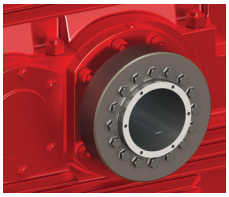
Solid shaft with keyway (or smooth type)



Hollow shaft with key-way (or splined hollow shaft)

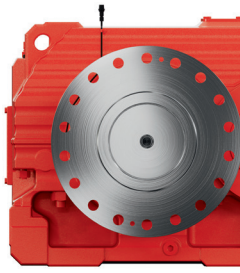


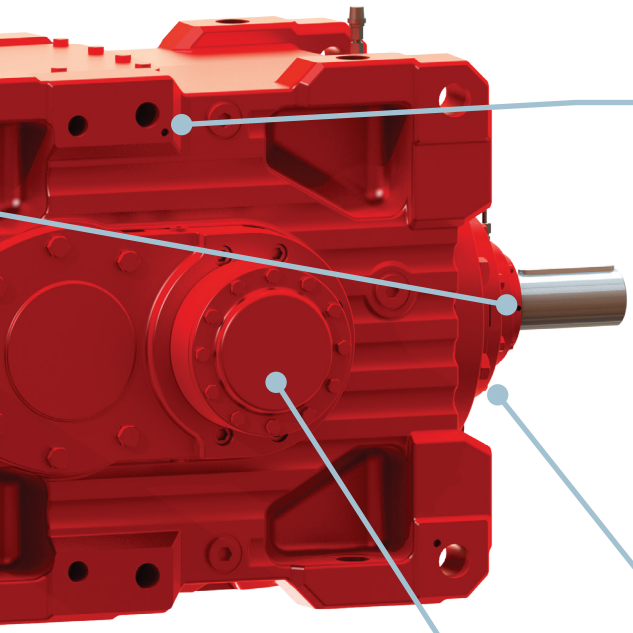
Splined solid shaft



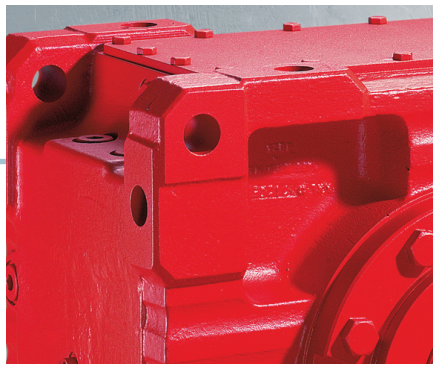
Hollow shaft for shrink disk connection

Versatile coupling solutions

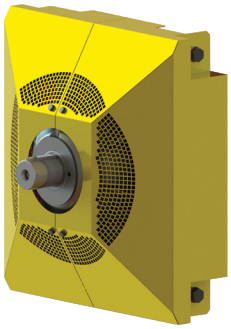




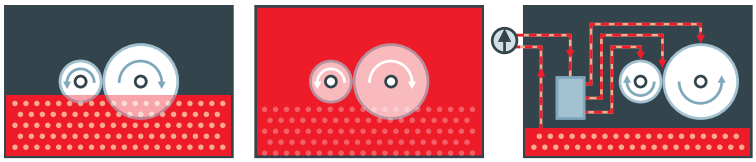
Gray cast housing (GG25), invertible design



Powerful fan solutions



Splash, bath and pressure lubrication available



Many more options are available for the drive package

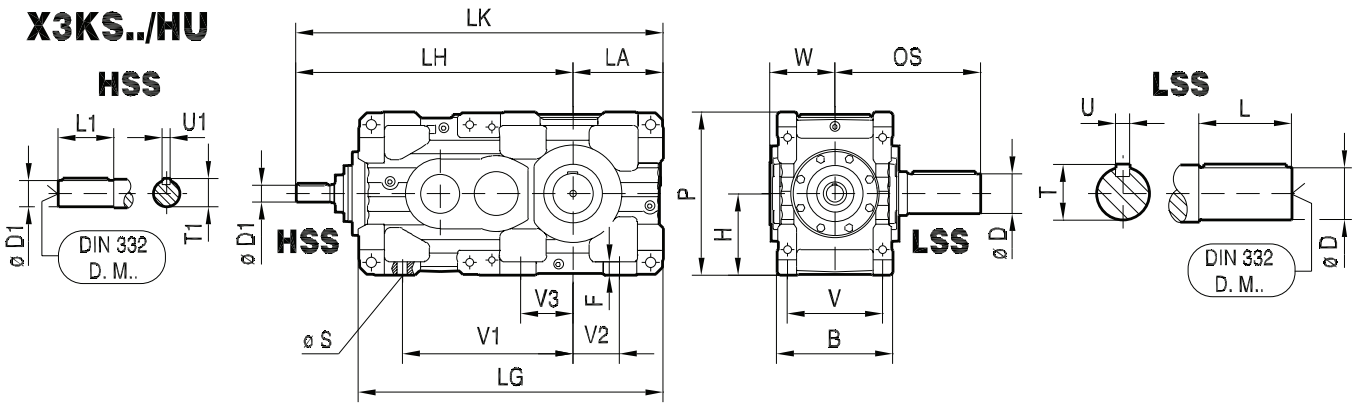
- V-belt
- Oil dipstick / oil level glass
- Foot, flange or shaft mounting
- Steel welded frame
- Mechanical and also fluid coupling
- Condition monitoring (oil aging, temperature monitoring, etc.)
- Standard or reinforced bearing concept
- ATEX on request

Wide range of available features for the X.e series
Torque range: 63,725 to 4,425,373 in-lbs

Dimension drawings

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

*** for i = 40 – 71 the value for L1 is 210 mm**
Please see catalog 30593506 for more details



			Low-speed shaft mm						High-speed shaft mm			
	W	Weights [lbs]	Ø D	L	OS	T	U	DIN 332 D.M..	Ø D1	L1	T1	U1
	153	529	80_{m6}	170	343	85	22_{h9}	M20	32_{k6}	80	35	10_{h9}
	153	573	90_{m6}	170	346	95	25_{h9}	M24	32_{k6}	80	35	10_{h9}
	174	805	100_{m6}	210	401	106	28_{h9}	M24	38_{k6}	100	41	10_{h9}
	174	915	110_{m6}	210	404	116	28_{h9}	M24	38_{k6}	100	41	10_{h9}
	202	1,345	120_{m6}	210	432	127	32_{h9}	M24	50_{k6}	110	53.5	14_{h9}
	202	1,433	130_{m6}	250	475	137	32_{h9}	M24	50_{k6}	110	53.5	14_{h9}
	240	2,205	140_{m6}	250	506	148	36_{h9}	M30	60_{m6}	140	64	18_{h9}
	240	2,524	160_{m6}	300	556	169	40_{h9}	M30	60_{m6}	140	64	18_{h9}
	277	3,120	170_{m6}	300	592	179	40_{h9}	M30	70_{m6}	140	74.5	20_{h9}
	277	3,362	170_{m6}	300	592	179	40_{h9}	M30	70_{m6}	140	74.5	20_{h9}
	298	4,497	180_{m6}	300	612	190	45_{h9}	M30	80_{m6}	170	85	22_{h9}
	298	4,718	190_{m6}	350	662	200	45_{h9}	M30	80_{m6}	170	85	22_{h9}
	331	6,448	210_{m6}	350	703	221	50_{h9}	M30	85_{m6}	170	90	22_{h9}
	331	6,823	230_{m6}	410	763	241	50_{h9}	M36	85_{m6}	170	90	22_{h9}
	377	8,697	230_{m6}	410	811	241	50_{h9}	M36	100_{m6}	210	106	28_{h9}
	377	8,984	240_{m6}	410	811	252	56_{h9}	M36	100_{m6}	210	106	28_{h9}
	417	10,736	250_{m6}	410	847	262	56_{h9}	M36	110_{m6}	210	116	28_{h9}
	419	11,839	270_{m6}	470	920	282	63_{h9}	M36	110_{m6}	210	116	28_{h9}
	419	12,941	290_{m6}	470	920	302	63_{h9}	M36	110_{m6}	210	116	28_{h9}
	465	15,476	290_{m6}	470	962	302	63_{h9}	M36	120_{m6}	210	127	32_{h9}
	465	17,020	300_{m6}	470	962	314	70_{h9}	M36	120_{m6}	210	127	32_{h9}
	499	18,893	320_{m6}	470	999	334	70_{h9}	M42	130_{m6}	250*	137	32_{h9}
	499	20,878	340_{m6}	550	1079	355	80_{h9}	M42	130_{m6}	250*	137	32_{h9}

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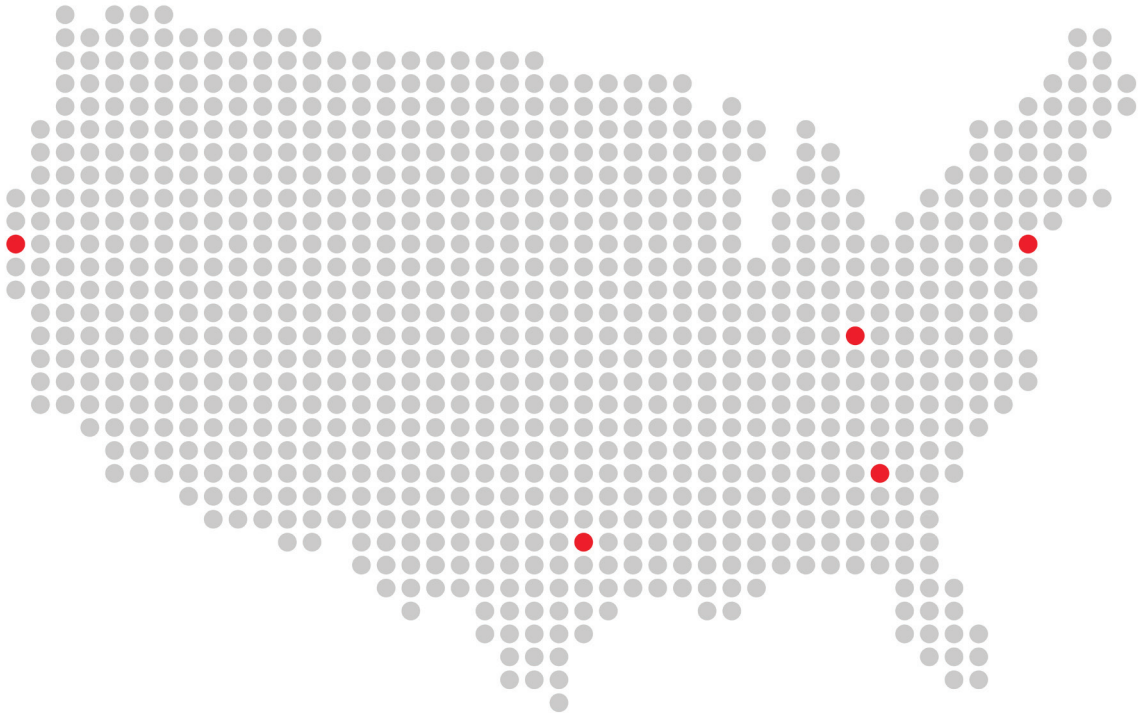

U.S. locations

U.S. Headquarters/Southeast Region
SEW-EURODRIVE, Inc.
220 Finch Road
Wellford, SC 29385
P: (864) 439-7537
cslyman@seweurodrive.com

Southwest Region
SEW-EURODRIVE, Inc.
202 W. Danieldale Rd.
DeSoto, TX 75115
P: (214) 330-4824
csdallas@seweurodrive.com

Western Region
SEW-EURODRIVE, Inc.
30599 San Antonio St.
Hayward, CA 94544
P: (510) 487-3560
cshayward@seweurodrive.com

Midwest Region
SEW-EURODRIVE, Inc.
2001 West Main St.
Troy, OH 45373
P: (937) 335-0036
cstroy@seweurodrive.com

Northeast Region
SEW-EURODRIVE, Inc.
2107 High Hill Rd.
Bridgeport, NJ 08014
P: (856) 467-2277
csbridgeport@seweurodrive.com

Heavy Industry Gearing
SEW-EURODRIVE, Inc.
148 Finch Rd.
Wellford, SC 29385
P: (864) 439-8792
igssorders@seweurodrive.com

www.seweurodrive.com

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