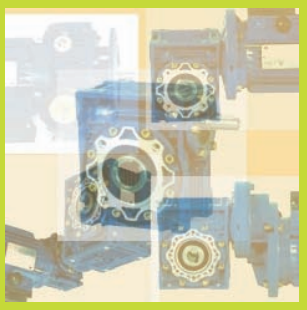

CTX 200
GILDEMEISTER



Notes

WORM GEARBOXES

MSF *Series worm geared motors*

Brief introduction

Worm gear speed reducers type ***SF – MSF*** *range is a brand new product generation of products developed by our company. They are characterized by a kinematic motion made of a casehardened and tempered steel worm with a ground thread and a wheel made out of a spheroidal graphite cast iron hub with addition of bronze.*
The ***SF – MSF*** *series are made up for 9 sizes with ratios from 1:7.5 until 1:100, are manufactured in die-cast aluminium frame up to the model 90 and in grey cast iron sizes 110 and 130.*
As an extension range we have avaliable 3 sizes of pre-stage helical units ***PR,*** *combination of double worm gearmotors, single and double output shafts and torque arms.*

Designation

MSF 063 FA – 30 DV ES Ø25 PAM80B14 B3

Mounting position.

Motor coupling.

Ø Output shaft bore (only for 040-050-063-075-090).

ES = *Single output shaft.*
ED = *Double output shaft.*
BR = *Torque arm.*

DV = *Double input shaft.*

Reduction ratio

FA
FB
FC
FD
FE

Output flange versions.

Size **025 – 030 – 040 – 050 – 063 – 075 – 090 – 110 – 130** .

MSF *Worm geared motor.*
SF *Worm gearbox with input shaft.*

Operation & Maintenance

To install the reduction unit the following instructions must be complied

- *Ensure correct alignment between the motor and the gear unit and between the gear unit and the driven machine.*
- *Mount the gear unit so that it is not subject to vibrations while operating.*
- *Machine the parts which are keyed into the shafts with the correct tolerance, to avoid forcing the gear unit during mounting.*
- *If shock, impact or seizure are expected, safety couplings must be fitted.*
- *If additional paint is applied you must protect the outer edges of the oil seals to prevent the rubber from drying and causing oil leaks.*
- *Clean the mating surfaces thoroughly and coat with suitable protective substances before assembly to prevent oxidation leading to seizing.*
- *When starting up, check that the electrics are equipped with overload cut-out to prevent damage to the motor.*
- *Check that the supply voltage punched on the electric motor nameplate is the same as the main voltage.*

While the gear unit is working

- *For units supplied without oil plugs, lubrication is permanent so they need no servicing.*
- *The oil needs to be changed for 110 and 130 models after approximately 5.000 hours or after long inactivity period. It is necessary to check the quantity of oil needed following the mounting position tables (on page 38).*
- *In the case of ambient temperatures under –20ºC or over 40ºC please contact with our technical department.*
- *During the early stages of service the gear unit temperature could be lightly higher than usual.*

Radial and axial loads

Transmission movement can produce radial or axial loads on shaft ends, it is necessary to make sure that resulting values, in most unfavourable conditions, do not exceed the maximum allowed values.
*In following table permissible radial loads **Fr1** for input shaft are listed. Contemporary permissible axial load is obtained:*

Fa1 = 0.2 x Fr1

nv rpm	Fr1 (daN) SF							
	030	040	050	063	075	090	110	130
1400	6	22	32	42	50	70	100	160
900	6	25	35	46	53	80	120	180
700	7	28	40	50	57	90	130	200
500	7	31	45	53	60	100	145	220

*Admissible radial loads **Fr2** for output shaft are listed In the next table. Contemporary permissible axial load is obtained:*

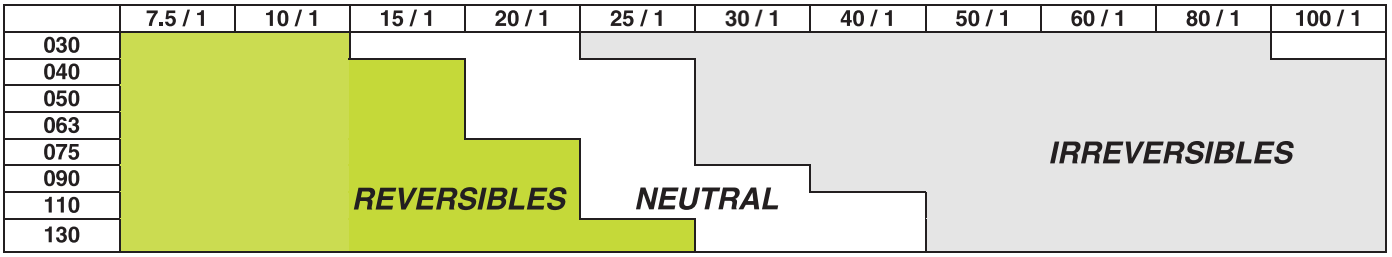
Fa2 = 0.2 x Fr2

nl rpm	Fr2 (daN) SF – MSF							
	030	040	050	063	075	090	110	130
187	65	128	177	233	275	305	386	506
140	73	141	195	256	301	336	424	556
93	84	162	224	295	346	384	486	638
70	91	178	247	325	383	424	536	702
56	100	194	266	349	414	456	577	756
47	105	205	284	370	439	486	614	804
35	115	225	313	408	484	534	677	885
28	125	244	336	441	520	576	729	954
23	134	259	357	467	554	612	774	1015
17	146	286	394	515	610	674	853	1117
14		308	425	555	656	727	920	1202

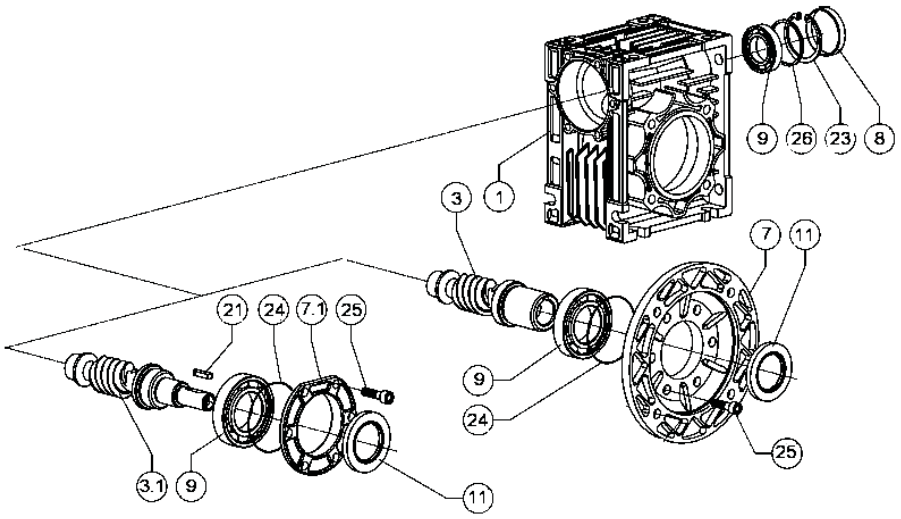
** Values given in the tables are relating at loads in the shafts center line.*

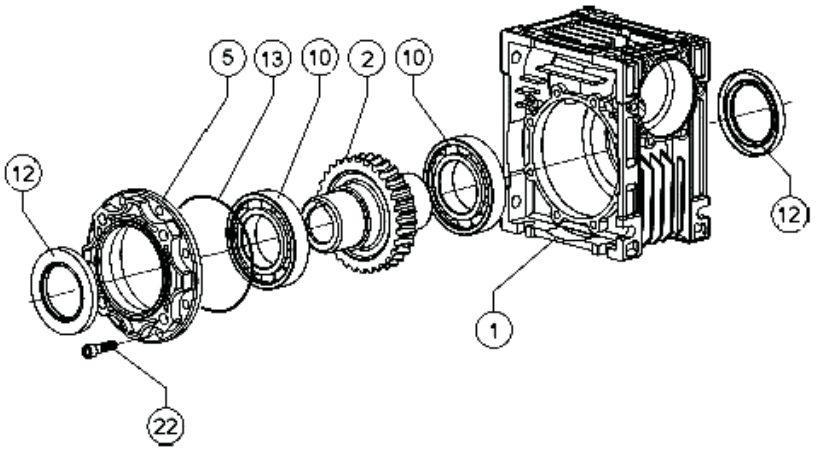
Irreversibility

Irreversibility is a characteristic of some worm gear reducers, it can not be operated from the output shaft. As orientation we show you the following table.



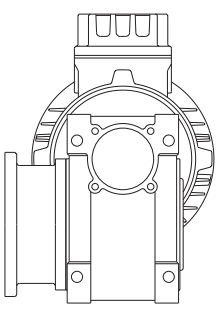
Spare parts



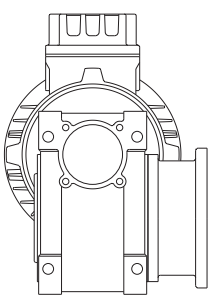


Nº	Part
1	Frame
2	Wheel
3	Worm MSF
3.1	Worm SF
5	Output shaft cover
7	Flange PAM
7.1	Input cover SF
8	Seal cover
9	Bearing
10	Bearing
11	Oil seal DIN 3760
12	Oil seal DIN 3760
13	O-Ring
21	Key DIN 8885
22	Screw DIN 912
23	Snap ring DIN 472
24	O-Ring
25	Screw DIN 912
26	Ring DIN 888

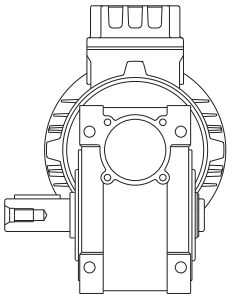
Position diagram for output flange and single shaft



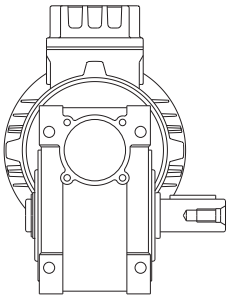
STANDARD



OPPOSITE SIDE



STANDARD



OPPOSITE SIDE

Worm geared motors performances

Motor Kw		n2 rpm	i	M2 Nm	f.s	*Type*
0.06	4P n1= 1400	186	7.5	2.6	4.2	MSF 025
		140	10	3.4	3.5	
		94	15	4.9	2.5	
		70	20	6.1	2.0	
		47	30	8.2	1.6	
		35	40	10.2	1.3	
		28	50	11.3	0.9	
		24	60	11	0.7	
		24	60	12.5	1.3	MSF 030
		18	80	13.5	0.9	
0.09	2P n1= 2800	374	7.5	2.0	3.9	MSF 025
		280	10	2.6	3.4	
		186	15	3.8	2.4	
	4P n1= 1400	186	7.5	3.9	2.8	MSF 025
		140	10	5.1	2.4	
		94	15	7.3	1.6	
		70	20	9.2	1.3	
		47	30	12.3	1.1	
		35	40	13	0.9	
		186	7.5	3.9	4.6	MSF 030
		140	10	5.0	3.6	
		94	15	7.1	2.5	
		70	20	9.0	2.0	
		56	25	10.4	2.8	
		47	30	12	1.1	
		35	40	14.5	1.2	
		28	50	16.9	1.0	
		24	60	16.9	0.9	
		28	50	19	2.0	MSF 040
		24	60	21.4	1.7	
		18	80	25.5	1.3	
		14	100	28.9	1.0	
	6P n1= 900	120	7.5	5.9	3.4	MSF 030
		11	80	37	1.0	MSF 040
		9	100	41	0.8	
		11	80	37	1.8	MSF 050
		9	100	42	1.3	
0.12	2P n1=2800	373	7.5	2.7	3.0	MSF 025
		280	10	3.5	2.6	
		186	15	5.0	1.8	
	4P n1=1400	186	7.5	5.2	3.4	MSF 030
		140	10	6.7	2.7	
		94	15	9.5	1.9	
		70	20	12	1.5	
		56	25	13.9	1.5	
		47	30	16	1.3	
		35	40	17	0.9	
		47	30	17.2	2.6	MSF 040
		35	40	21.3	1.9	
		28	50	25.4	1.5	
		24	60	28.5	1.3	
		18	80	34.1	1.0	
		14	100	38	0.8	
		24	60	29	2.3	MSF 050
		18	80	34.7	1.9	
		14	100	40.1	1.4	
	6P n1=900	120	7.5	7.9	2.5	MSF 030
		60	15	14	1.4	
		15	60	42	1.7	MSF 050
		11	80	50	1.4	
		9	100	56	1.0	

Motor Kw		n2 rpm	i	M2 Nm	f.s	*Type*
0.18	2P n1= 2800	374	7.5	4.0	3.2	MSF 030
		280	10	5.2	2.5	
		186	15	7.5	1.7	
	4P n1= 1400	186	7.5	8.0	2.3	MSF 030
		140	10	10	1.8	
		94	15	14	1.3	
		70	20	18	1.0	
		56	25	20	1.0	
		70	20	19	2.0	MSF 040
		56	25	23	1.7	
		47	30	26	1.7	
		35	40	32	1.3	
		28	50	38	1.0	
		24	60	43	0.8	
		35	40	32	2.3	MSF 050
		28	50	38	1.9	
		24	60	43	1.6	
		18	80	53	1.2	
		14	100	55	0.9	
	6P n1= 900	18	50	56	1.4	MSF 050
		15	60	63	1.1	
		11	80	75	0.9	
		11	80	79	1.6	MSF 063
		9	100	90	1.4	
0.25	2P n1= 2800	374	7.5	5.6	2.3	MSF 030
		280	10	7.2	1.8	
		186	15	10	1.3	
	4P n1= 1400	186	7.5	11	3.6	MSF 040
		140	10	14	2.8	
		94	15	20	1.9	
		70	20	26	1.5	
		56	25	31	1.2	
		47	30	36	1.3	
		35	40	44	0.9	
		70	20	26	2.7	MSF 050
		56	25	32	2.2	
		47	30	36	2.3	
		35	40	45	1.7	
		28	50	53	1.4	
		24	60	60	1.1	
		18	80	65	0.9	
		24	60	63	2.0	MSF 063
		18	80	77	1.6	
		14	100	85	1.4	
	6P n1= 900	120	7.5	17	2.6	MSF 040
		15	60	92	1.5	MSF 063
		11	80	110	1.2	
		9	100	125	1.0	
0.37	2P n1= 2800	373	7.5	8.4	3.3	MSF 040
		280	10	11	2.6	
		186	15	16	1.9	
	4P n1= 1400	186	7.5	16	2.4	MSF 040
		140	10	21	1.9	
		94	15	30	1.3	
		70	20	39	1.0	
		56	25	47	0.8	
		94	15	31	2.4	MSF 050
		70	20	39	1.8	
		56	25	47	1.5	
		47	30	54	1.5	
		35	40	66	1.1	

Worm geared motors performances

Motor Kw		n2 rpm	i	M2 Nm	f.s	*Type*
0.37	4P n1= 1400	28	50	73	0.9	MSF 050
		24	60	89	0.8	
		35	40	70	2.1	MSF 063
		28	50	83	1.6	
		24	60	95	1.4	
		18	80	114	1.1	
		14	100	118	0.9	
		24	60	98	2.0	MSF 075
		18	80	121	1.6	
		14	100	139	1.3	
	6P n1= 900	120	7.5	25	3.3	MSF 050
		15	60	137	1.0	MSF 063
		15	60	144	1.5	MSF 075
		11	80	173	1.2	
		9	100	196	1.0	
0.55	2P n1= 2800	374	7.5	13	2.2	MSF 040
		280	10	17	1.8	
		186	15	24	1.5	
	4P n1= 1400	186	7.5	25	2.9	MSF 050
		140	10	32	2.2	
		94	15	46	1.6	
		70	20	60	1.2	
		56	25	71	1.0	
		47	30	81	1.0	
		70	20	60	2.2	MSF 063
		56	25	72	1.8	
		47	30	80	1.9	
		35	40	104	1.4	
		28	50	123	1.1	
		24	60	140	0.9	
		35	40	108	2.0	MSF 075
		28	50	129	1.6	
		24	60	146	1.4	
		18	80	180	1.1	
		14	100	206	0.9	
		18	80	189	1.5	MSF 090
		14	100	221	1.2	
		18	80	201	2.4	MSF 110
		14	100	236	1.9	
	6P n1= 900	120	7.5	38	2.2	MSF 050
		18	50	187	1.2	MSF 075
		15	60	214	1.0	
		15	60	224	1.6	MSF 090
		11	80	275	1.1	
		9	100	315	0.9	
		11	80	294	1.8	MSF 110
		9	100	338	1.4	
0.75	2P n1=2800	373	7.5	17	3.0	MSF 050
		280	10	23	2.4	
		186	15	33	1.7	
	4P n1=1400	186	7.5	34	2.1	MSF 050
		140	10	44	1.6	
		94	15	63	1.2	
		70	20	81	0.9	
		94	15	63	2.2	MSF 063
		70	20	82	1.6	
		56	25	99	1.3	
		47	30	109	1.4	
		35	40	143	1.0	
		47	30	116	2.0	MSF 075
		35	40	147	1.4	
		28	50	176	1.2	
		24	60	200	1.0	

Motor Kw		n2 rpm	i	M2 Nm	f.s	*Type*
0.75	4P n1= 1400	28	50	184	1.8	MSF 090
		24	60	212	1.5	
		18	80	257	1.1	
		14	100	270	0.9	
		18	80	274	1.8	MSF 110
		14	100	322	1.4	
	6P n1= 900	120	7.5	52	2.9	MSF 063
		18	50	271	1.4	MSF 090
		15	60	306	1.1	
		15	60	325	1.9	MSF 110
		11	80	401	1.3	
		9	100	462	1.1	
1.10	2P n1= 2800	374	7.5	25	2.1	MSF 050
		280	10	33	1.6	
		186	15	48	1.2	
	4P n1= 1400	186	7.5	49	2.6	MSF 063
		140	10	65	2.0	
		94	15	93	1.5	
		70	20	121	1.1	
		56	25	149	0.9	
		47	30	167	1.0	
		70	20	122	1.7	MSF 075
		56	25	149	1.3	
		47	30	170	1.3	
		35	40	216	1.0	
		35	40	225	1.6	MSF 090
		28	50	271	1.3	
		24	60	311	1.0	
		24	60	324	1.7	MSF 110
		18	80	410	1.2	
		14	100	460	1.0	
		18	80	408	2.1	MSF 130
		14	100	480	1.5	
	6P n1= 900	120	7.5	76	2.0	MSF 063
		18	50	414	1.6	MSF 110
		15	60	476	1.3	
		11	80	588	0.9	
		11	80	598	1.4	MSF 130
		9	100	689	1.1	
1.50	2P n1= 2800	374	7.5	35	2.7	MSF 063
		280	10	46	2.1	
		186	15	66	1.6	
	4P n1= 1400	186	7.5	68	1.9	
		140	10	89	1.5	
		94	15	127	1.1	
		70	20	166	0.8	
		140	10	90	2.2	MSF 075
		94	15	130	1.5	
		70	20	167	1.3	
		56	25	200	1.0	
		47	30	230	1.0	
		56	25	209	1.6	MSF 090
		47	30	236	1.7	
		35	40	306	1.2	
		28	50	369	0.9	
		24	60	424	0.8	
		28	50	375	1.6	MSF 110
		24	60	442	1.3	
		18	80	490	0.9	
		24	60	450	1.9	MSF 130
		18	80	547	1.5	
		14	100	652	1.1	

Worm geared motors performances

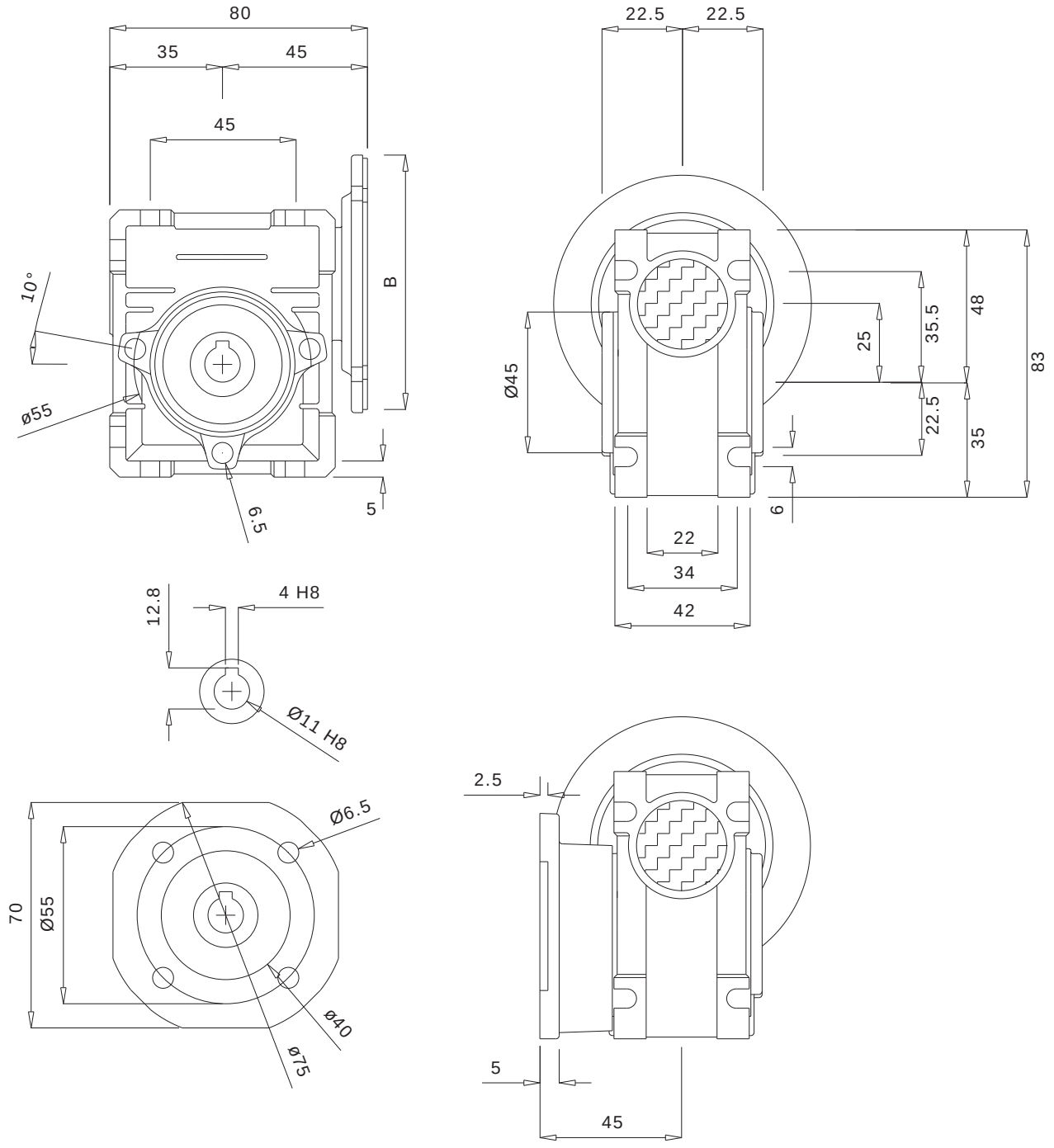
Motor Kw		n2 rpm	i	M2 Nm	f.s	*Type*
1.50	6P n1= 900	120	7.5	105	2.0	MSF 075
		15	60	649	1.0	MSF 110
		15	60	659	1.4	MSF 130
		11	80	815	1.1	
2.20	2P n1= 2800	374	7.5	51	1.8	MSF 063
		280	10	67	1.5	
		186	15	97	1.1	
	4P n1= 1400	186	7.5	100	1.8	MSF 075
		140	10	132	1.5	
		94	15	191	1.0	
		186	7.5	101	2.9	MSF 090
		140	10	133	2.3	
		94	15	193	1.9	
		70	20	251	1.4	
		56	25	307	1.1	
		47	30	346	1.2	
		70	20	256	2.2	MSF 110
		56	25	316	1.9	
		47	30	355	1.8	
		35	40	462	1.3	
		28	50	550	1.1	
		24	60	648	0.9	
		28	50	567	1.7	MSF 130
		24	60	660	1.4	
		18	80	803	1.0	
	6P n1= 900	120	7.5	156	2.2	MSF 075
		18	50	840	1.2	MSF 130
		15	60	966	1.0	
3.00	2P n1=2800	373	7.5	70	1.9	MSF 075
		280	10	92	1.6	
		374	7.5	71	3.0	MSF 090
		280	10	92	2.6	
	4P n1=1400	186	7.5	138	2.1	MSF 090
		140	10	187	1.7	
		94	15	264	1.4	
		70	20	344	1.0	
		140	10	182	2.6	MSF 110
		94	15	263	2.2	
		70	20	350	1.6	
		56	25	431	1.4	
		47	30	484	1.3	
		35	40	462	1.0	
		28	50	767	0.8	
		35	40	631	1.6	MSF 130
		28	50	773	1.3	
		24	60	884	1.0	
		18	80	1113	0.8	
	6P n1=900	120	7.5	212	2.7	MSF 110
		30	30	745	1.6	MSF 130
		22	40	955	1.2	

Motor Kw		n2 rpm	i	M2 Nm	f.s	*Type*
4.00	2P n1=2800	374	7.5	93	1.4	MSF 075
		280	10	123	1.2	
		374	7.5	94	2.2	MSF 090
		280	10	123	1.9	
	4P n1= 1400	186	7.5	182	1.0	MSF 075
		140	10	240	0.8	
		186	7.5	184	1.6	MSF 090
		140	10	243	1.3	
		94	15	352	1.0	
		70	20	458	0.8	
		186	7.5	184	2.4	MSF 110
		140	10	243	2.1	
		94	15	352	1.6	
		70	20	464	1.2	
		56	25	573	1.0	
		47	30	646	1.0	
		56	25	572	1.6	MSF 130
		47	30	655	1.6	
		35	40	857	1.2	
		28	50	1023	1.0	
		24	60	1179	0.8	
	6P n1= 900	120	7.5	283	2.0	MSF 110
		45	20	713	1.5	MSF 130
		36	25	870	1.2	
5.50	4P n1= 1400	186	7.5	253	1.9	MSF 110
		140	10	334	1.6	
		94	15	484	1.2	
		70	20	638	0.9	
		186	7.5	256	3.0	MSF 130
		140	10	334	2.5	
		94	15	490	1.9	
		70	20	645	1.4	
		56	25	788	1.2	
		47	30	900	1.2	
		35	40	1171	0.9	
7.50	4P n1= 1400	186	7.5	345	1.4	MSF 110
		140	10	455	1.1	
		94	15	660	0.9	
		186	7.5	349	2.1	MSF 130
		140	10	455	1.8	
		94	15	667	1.4	
		70	20	880	1.0	
		56	25	1074	0.9	
		47	30	1228	0.8	
		35	40	1596	0.7	
9.20	4P n1= 1400	186	7.5	428	1.8	MSF 130
		140	10	559	1.5	
		94	15	819	1.1	
		70	20	1079	0.8	
		56	25	1318	0.7	

Overall dimensions

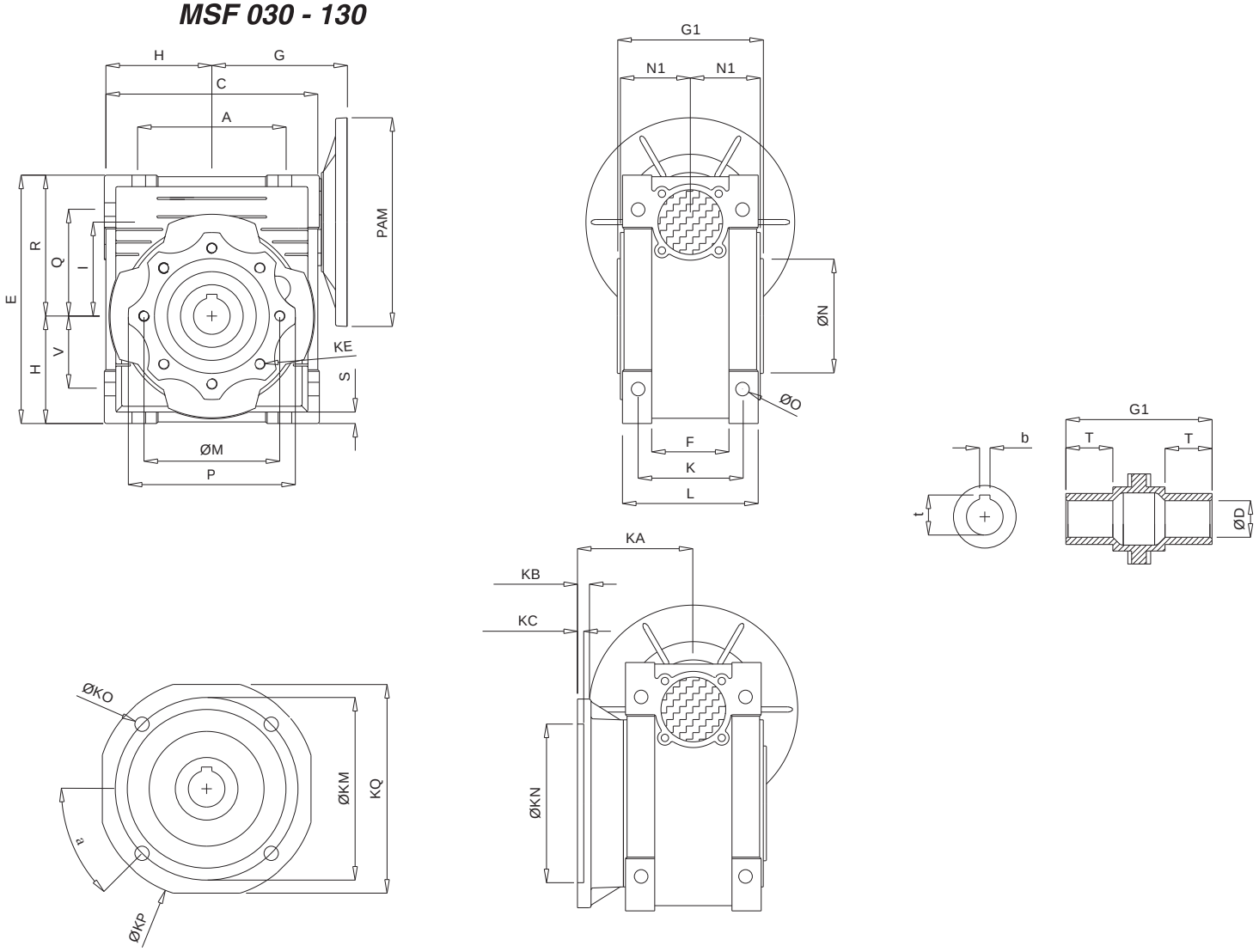
MSF 025
MSF 025

Weight without motor 0.7Kg.



For dimensions concerning the motor coupling (dimension B) please refer to the table on page 14

MSF 030 - 130
MSF 030 - 130

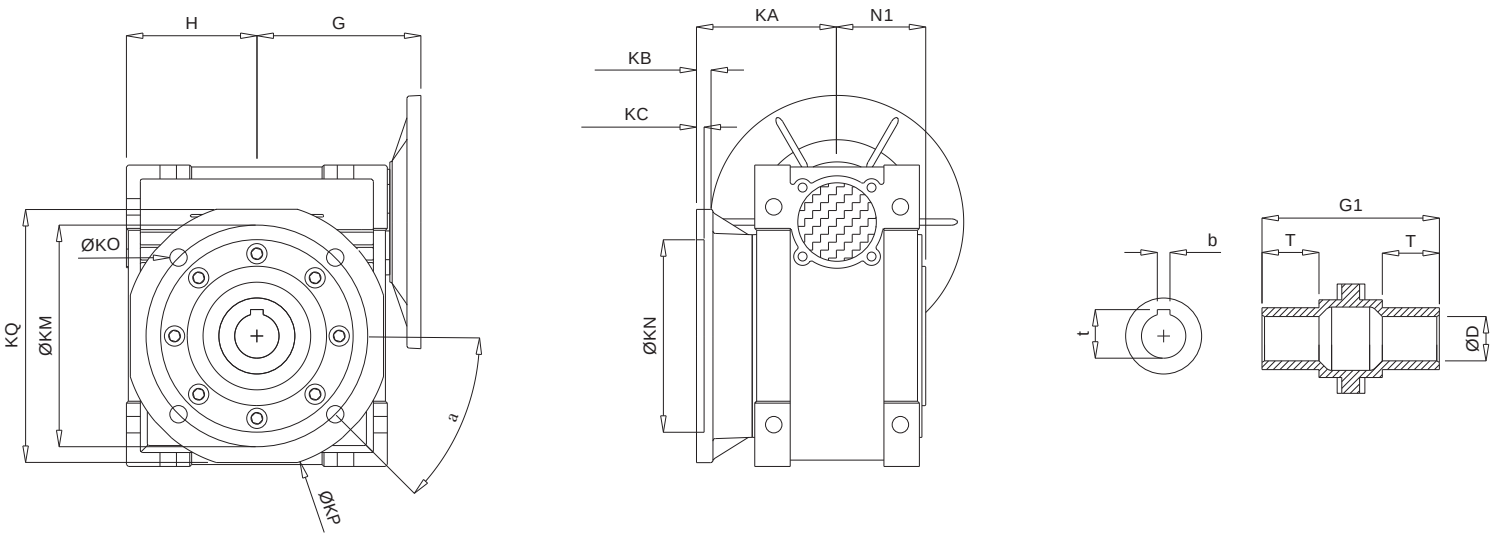


Size	A	B	C	D (H7)	E	F	G	G1	H	I	L	M	N (h8)	N1	O	P	Q	R
030	54	20	80	14	97	32	55	63	40	30	56	65	55	29	6.5	75	44	57
040	70	23	100	18 (19)	121.5	43	70	78	50	40	71	75	60	36.5	6.5	87	55	71.5
050	80	30	120	25 (24)	144	49	80	92	60	50	85	85	70	43.5	8.5	100	64	84
063	100	40	144	25 (28)	174	67	95	112	72	63	103	95	80	53	8.5	110	80	102
075	120	50	172	28 (35)	205	72	112.5	120	86	75	112	115	95	57	11	140	93	119
090	140	50	208	35 (38)	238	74	129.5	140	103	90	130	130	110	67	13	160	102	135
110	170	60	252.5	42	295	-	160	155	127.5	110	144	165	130	74	14	200	125	167.5
130	200	80	292.5	45	335	-	180	170	147.5	130	155	215	180	81	16	250	140	187.5

Size	S	T	V	K	KA	KB	KC	KE	a	KM	KN (H8)	KO	KP	KQ	b	t	kg
030	5.5	21	27	44	54.5	6	4	M6x11 (4)	45º	68	50	6.5	80	70	5	16.3	1.2
040	6.5	26	35	60	67	7	4	M6x8 (4)	45º	87	60	9	110	95	6 (6)	20.8 (21.8)	2.3
050	7	30	40	70	90	9	5	M8x10 (4)	45º	90	70	11	125	110	8 (8)	28.3 (27.3)	3.5
063	8	36	50	85	82	10	6	M8x14 (8)	45º	150	115	11	180	142	8 (8)	28.3 (31.3)	6.2
075	10	40	60	90	111	13	6	M8x14 (8)	45º	165	130	14	200	170	8 (10)	31.3 (38.3)	9
090	11	45	70	100	111	13	6	M10x18 (8)	45º	175	152	14	210	200	10 (10)	38.3 (41.3)	13
110	14	50	85	115	131	15	6	M10x18 (8)	45º	230	170	14	280	260	12	45.3	35
130	15	60	100	120	140	15	6	M12x21 (8)	22.5º	255	180	16	320	290	14	48.8	48

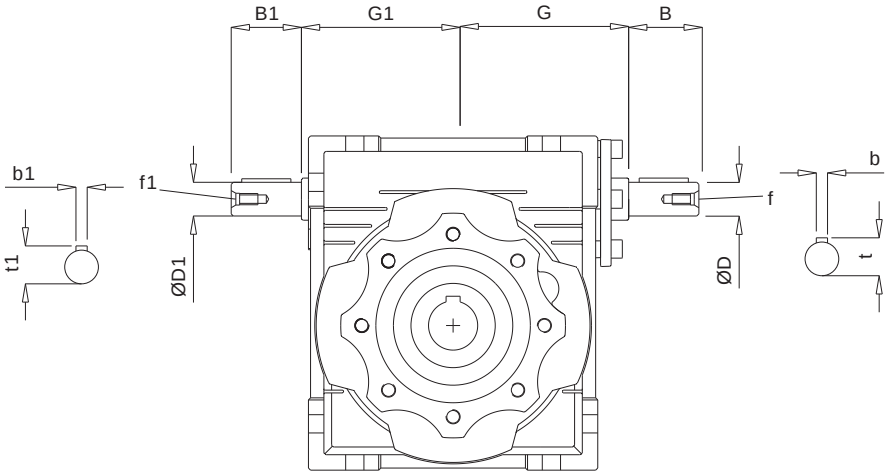
For dimensions concerning the motor coupling (dimension PAM) please refer to the table on page 14

Special output flanges



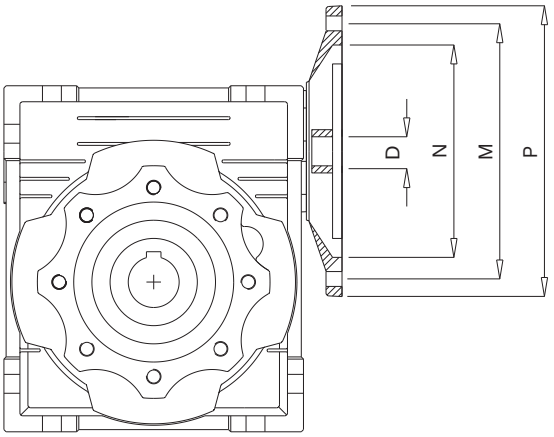
Size		D (H7)	G	G1	H	N1	T	KA	KB	KC	a	KM	KN (H8)	KO	KP	KQ	b	t
040	**FB**	18 (19)	70	78	50	36.5	26	97	7	4	45º	87	60	9	110	95	6 (6)	20.8 (21.8)
	FC							80	9	5	45º	115	95	9.5	140	-		
	FD							58	12	5	45º	100	80	9	120	-		
050	**FB**	25 (24)	80	92	60	43.5	30	120	9	5	45º	87	70	11	125	110	8 (8)	28.3 (27.3)
	FC							89	10	5	45º	130	110	9.5	160	-		
	FD							72	14.5	5	45º	115	95	11	140	-		
063	**FB**	25 (28)	95	112	72	53	36	112	10	6	45º	150	115	11	180	142	8 (8)	28.3 (31.3)
	FC							98	10	5	45º	165	130	11	200	-		
	FD							107	10	5	45º	165	130	11	200	-		
	FE							80.5	16.5	5	45º	130	110	11	160	-		
075	**FB**	28 (35)	112.5	120	86	57	40	90	13	6	45º	130	110	11	160	-	8 (10)	31.3 (38.3)
090	**FB**	35 (38)	129.5	140	103	67	45	122	18	6	45º	215	180	14	250	-	10 (10)	38.3 (41.3)
	FC							110	17	6	45º	165	130	11	200	-		
	FD							151	13	6	45º	175	152	14	210	200		
110	**FB**	42	160	155	127.5	74	50	130	18	5	45º	215	180	15	250	-	12	45.3

Single and double input shaft model



Size	B	G	D (j6)	f	b	t		B1	G1	D1 (j6)	f1	b1	t1
030	20	51	9	-	3	10.2		20	45	9	-	3	10.2
040	23	60	11	-	4	12.5		23	53	11	-	4	12.5
050	30	74	14	M6	5	16.0		30	64	14	M6	5	16.0
063	40	90	19	M6	6	21.5		40	75	19	M6	6	21.5
075	50	105	24	M8	8	27.0		50	90	24	M8	8	27.0
090	50	125	24	M8	8	27.0		50	108	24	M8	8	27.0
110	60	142	28	M10	8	31.0		60	135	28	M10	8	31.0
130	80	162	30	M10	8	33.0		80	155	30	M10	8	33.0

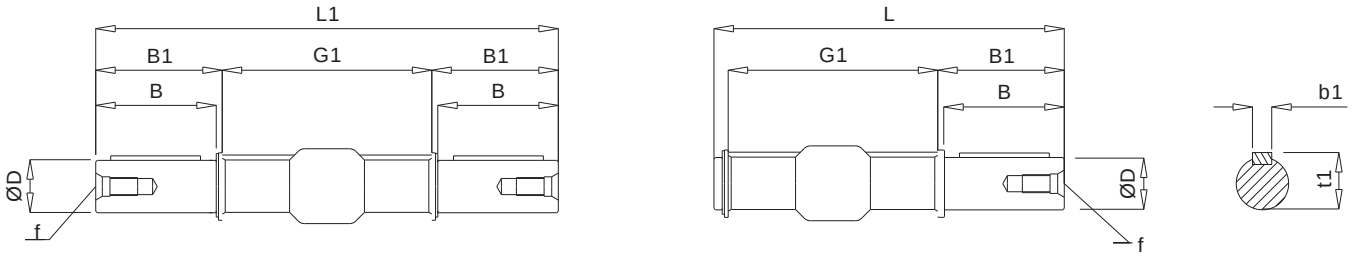
Motor coupling



TYPE	PAM IEC	N	M	P	D										
					7.5	10	15	20	25	30	40	50	60	80	100
MSF 025	56 B14	50	65	80	9	9	9	9	-	9	9	9	9	-	-
MSF 030	63 B5	95	115	140	11	11	11	11	11	11	11	-	-	-	-
	63 B14	60	75	90											
	56 B5	80	100	120	9	9	9	9	9	9	9	9	9	9	-
	56 B14	50	65	80											
MSF 040	71 B5	110	130	160	14	14	14	14	14	14	14	-	-	-	-
	71 B14	70	85	105											
	63 B5	95	115	140	11	11	11	11	11	11	11	11	11	11	11
	63 B14	60	75	90											
	56 B5	80	100	120	-	-	-	-	-	-	-	9	9	9	9
MSF 050	80 B5	130	165	200	19	19	19	19	19	19	-	-	-	-	-
	80 B14	80	100	120											
	71 B5	110	130	160	14	14	14	14	14	14	14	14	14	14	-
	71 B14	70	85	105											
	63 B5	95	115	140	-	-	-	-	-	-	11	11	11	11	11
MSF 063	90 B5	130	165	200	24	24	24	24	24	24	-	-	-	-	-
	90 B14	95	115	140											
	80 B5	130	165	200	19	19	19	19	19	19	19	19	19	-	-
	80 B14	80	100	120											
	71 B5	110	130	160	-	-	-	-	-	-	14	14	14	14	14
	71 B14	70	85	105											
MSF 075	100/112 B5	180	215	250	28	28	28	-	-	-	-	-	-	-	-
	100/112 B14	110	130	160											
	90 B5	130	165	200	24	24	24	24	24	24	24				
	90 B14	95	115	140											
	80 B5	130	165	200	-	-	-	19	19	19	19	19	19	19	19
	80 B14	80	100	120											
	71 B5	110	130	160	-	-	-	-	-	-	-	14	14	14	14
MSF 090	100/112 B5	180	215	250	28	28	28	28	28	28	-	-	-	-	-
	100/112 B14	110	130	160											
	90 B5	130	165	200	24	24	24	24	24	24	24	24	24	-	-
	90 B14	95	115	140											
	80 B5	130	165	200	-	-	-	-	-	-	19	19	19	19	19
	80 B14	80	100	120											
MSF 110	132 B5	230	265	300	38	38	38	38	-	-	-	-	-	-	-
	100/112 B5	180	215	250	28	28	28	28	28	28	28	28	28	-	-
	90 B5	130	165	200	-	-	-	-	24	24	24	24	24	24	24
	80 B5	130	165	200	-	-	-	-	-	-	-	-	-	19	19
MSF 130	132 B5	230	265	300	38	38	38	38	38	38	38	-	-	-	-
	100/112 B5	180	215	250	-	-	-	-	28	28	28	28	28	28	28
	90 B5	130	165	200	-	-	-	-	-	-	-	-	-	24	24

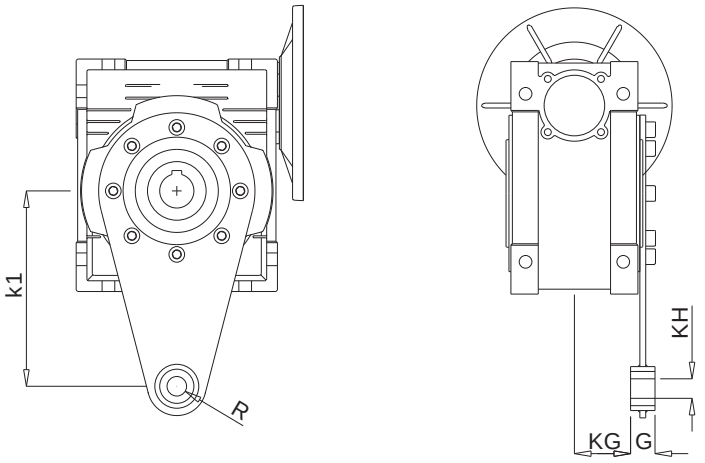
Accesories

Single and double output shafts



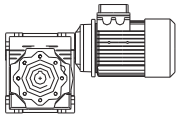
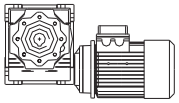
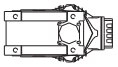
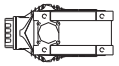
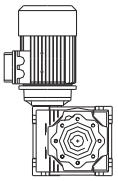
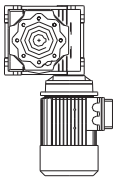
	D h6	B	B1	G1	L	L1	f	b1	t1
025	11	23	25.5	50	81	101	-	4	12.5
030	14	30	32.5	63	102	128	M6	5	16
040	18	40	43	78	128	164	M6	6	20.5
050	25	50	53.5	92	153	199	M10	8	28
063	25	50	53.5	112	173	219	M10	8	28
075	28	60	63.5	120	192	247	M10	8	31
090	35	80	84.5	140	234	309	M12	10	38
110	42	80	84.5	155	249	324	M16	12	45
130	45	80	85	170	265	340	M16	14	48.5

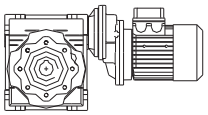
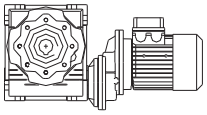
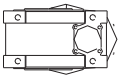
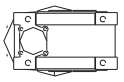
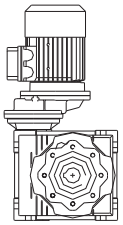
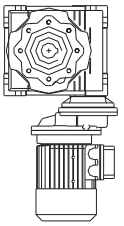
Torque arms

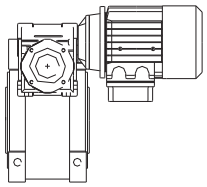
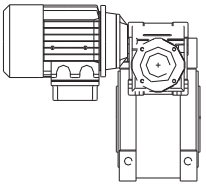
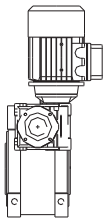
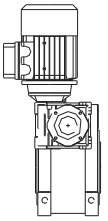
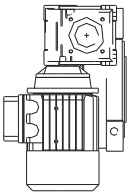
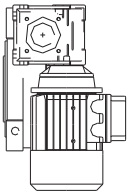
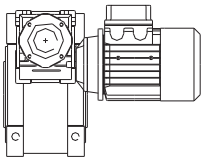
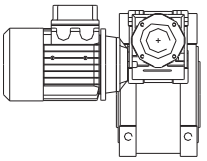


	K1	G	KG	KH	R
025	70	14	17.5	8	15
030	85	14	24	8	15
040	100	14	31.5	10	18
050	100	14	38.5	10	18
063	150	14	49	10	18
075	200	25	47.5	20	30
090	200	25	57.5	20	30
110	250	30	62	25	35
130	250	30	69		

Mounting Positions

	B3	B8	B6	B7	V5	V6
MSF						

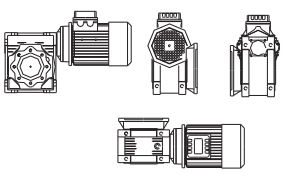
	B3	B8	B6	B7	V5	V6
PR-MSF						

	AS1	AS2	VS1	VS2
MSF-MSF				
	PS1	**PS2**	**BS1**	**BS2**
				

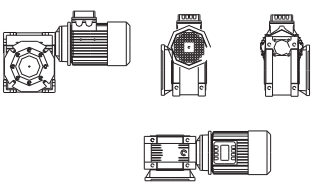
OUTPUT FLANGE

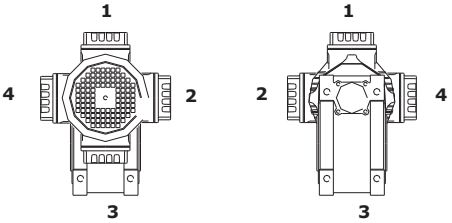
POS. TERMINAL BOX

STANDARD

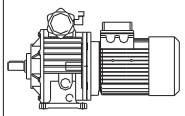
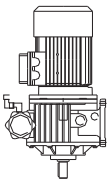
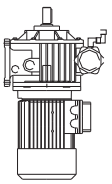
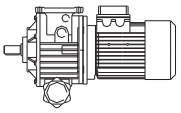
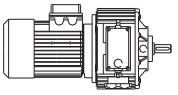
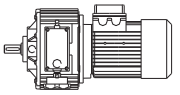


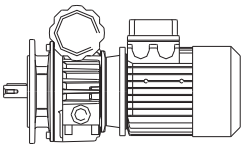
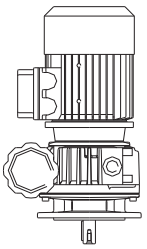
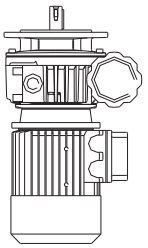
OPPOSITE SIDE





Mounting Positions

	B3	V5	V6	B8	B6-D	B6-I
FEET						

	B3	V1	V3
FLANGE			

Lubrication

Choice of lubricants

		MVB Speed Variators	MSF Worm-gear speed reducers				Helical Units
			MSF 025~090	MSF 110~130			
	Lubricant	Synthetic	Synthetic	Synthetic	Mineral		Synthetic
	Temp ºC	-25ºC ~ +40ºC	-25ºC ~ +50ºC	-25ºC ~ +40ºC	-5ºC ~ +40ºC	-15ºC ~ +25ºC	-25ºC ~ +50ºC
ISO		VG 32	VG 320	VG 320	VG 460	VG 220	VG 320
IP		A.T.F. DEXRON FLUID	TELIUM VSF	MELLANA OIL 320	MELLANA OIL 460	MELLANA OIL 220	TELIUM VSF
SHELL		A.T.F. DEXRON	TIVELA OIL SC320	OMALA OIL 320	OMALA OIL 460	OMALA OIL 220	TIVELA OIL SC320
AGIP		A.T.F. DEXRON	BLASIA S320	BLASIA 320	BLASIA 460	BLASIA 220	BLASIA S320
ESSO		A.T.F. DEXRON	S 220	S 220	SPARTAN EP 460	SPARTAN EP 220	S 220
MOBIL		A.T.F. 220	GLYGOYLE 30	MOBIL GEAR 320	MOBIL GEAR 634	MOBIL GEAR 630	GLYGOYLE 30
CASTROL		TQ DEXRON II	ALPHASYN PG 320	ALPHASYN PG 320	ALPHA MAX 460	ALPHA MAX 220	ALPHASYN PG 320
BP		AUTRAN DX	ENERGOL SG-XP 320	ENERGOL SG-XP 320	ENERGOL SG-XP 460	ENERGOL SG-XP 220	ENERGOL SG-XP 320

Oil volume

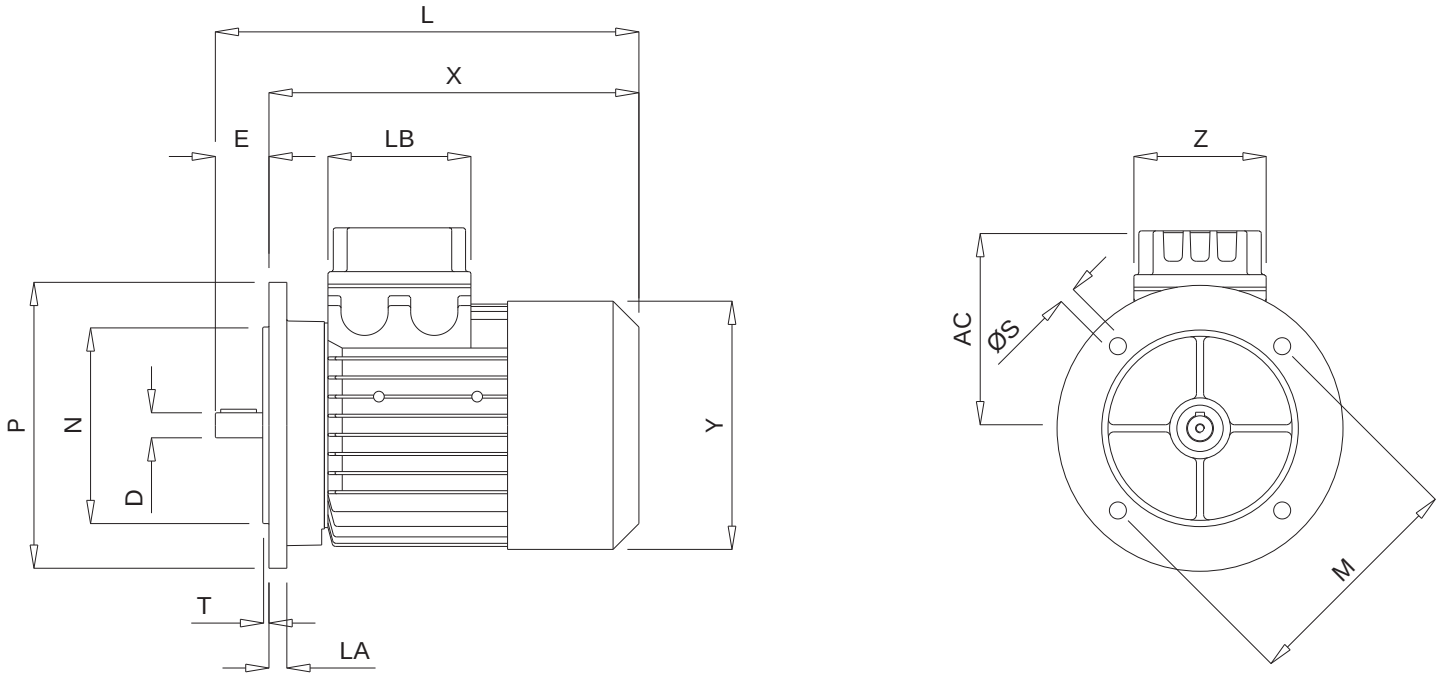
MSF									
Size	025	030	040	050	063	075	090	110	130
L	0.02	0.04	0.08	0.15	0.3	0.55	1	3	4.5

MVB							
Size	0.18	0.37	0.75	1.50	2.20	4.00	7.50
L	0.02	0.04	0.08	0.15	0.3	0.55	1

ELECTRIC MOTORS

Overall dimensions

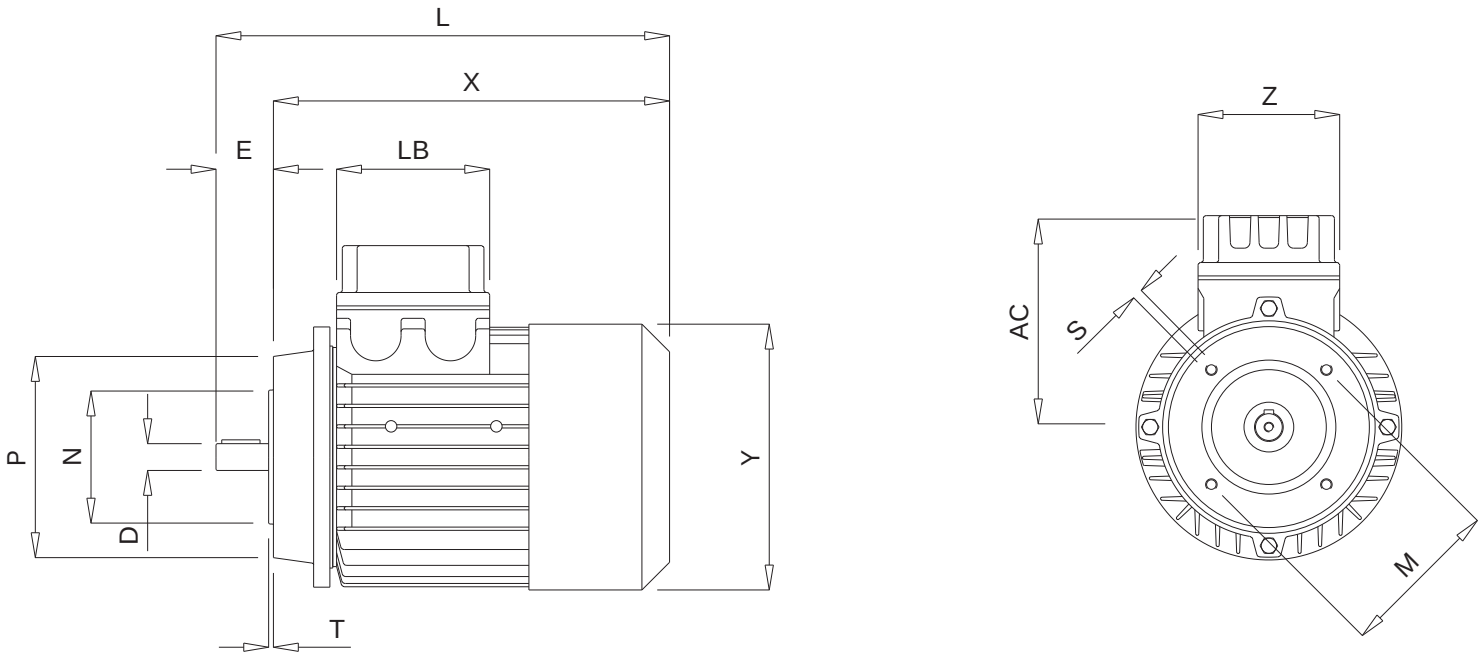
B5



SIZE	N	M	P	D	E	S	L	X	LB	Z	T	LA	AC	Y	Kg
56	80	100	120	9	20	7	193	173	74	74	3	9	91.5	110	3.1
63	95	115	140	11	23	9	212	189	74	74	3	10.5	98	123	4.2
71	110	130	160	14	30	9	246	216	74	74	3.5	10	105	136	6.5
80	130	165	200	19	40	12	275	235	89	89	3.5	11	122	156	9.2
90 S	130	165	200	24	50	12	301	251	89	89	3.5	10.5	127	176	11.4
90 L	130	165	200	24	50	12	326	276	89	89	3.5	10.5	127	176	14.4
100	180	215	250	28	60	14	364	304	89	89	4	15.5	138	194	23.4
112	180	215	250	28	60	14	388	328	89	89	4	15.5	150	218	30.4
132 S	230	265	300	38	80	14	450	370	104	104	4	20	177	257	49.2
132 M	230	265	300	38	80	14	488	408	104	104	4	20	177	257	54.5
160 M	250	300	350	42	110	18	602	492	186	186	5	14	240	310	93.8
160 L	250	300	350	42	110	18	646	536	186	186	5	14	240	310	102
180 M	250	300	350	48	110	18.5	625	538	186	186	5	20	240	360	150
180 L	250	300	350	48	110	18.5	625	613	186	186	5	20	240	360	162
200 L	300	350	400	55	110	18.5	790	613	186	186	5	18	257	354	231

Overall dimensions

B14



SIZE	N	M	P	D	E	S	L	X	LB	Z	T	AC	Y	Kg
56	50	65	80	9	20	M5	193	173	74	74	2	91.5	110	3.1
63	60	75	90	11	23	M5	212	189	74	74	2	98	123	4.2
71	70	85	105	14	30	M6	246	216	74	74	2.5	105	136	6.5
80	80	100	120	19	40	M6	275	235	89	89	3	122	156	9.2
90 S	95	115	140	24	50	M8	301	251	89	89	3	127	176	11.4
90 L	95	115	140	24	50	M8	326	276	89	89	3	127	176	14.4
100	110	130	160	28	60	M8	364	304	89	89	3.5	138	194	23.4
112	110	130	160	28	60	M8	388	328	89	89	3.5	150	218	30.4
132 S	130	165	200	38	80	M10	450	370	104	104	3.5	177	257	49.2
132 M	130	165	200	38	80	M10	488	408	104	104	3.5	177	257	54.5