ALTRA

AL- Series worm gearboxes
ALM- Series motorised worm gearboxes

● High power to weight ratio ● Wide range of mounting options ● Virtually maintenance-free

PU + ALM

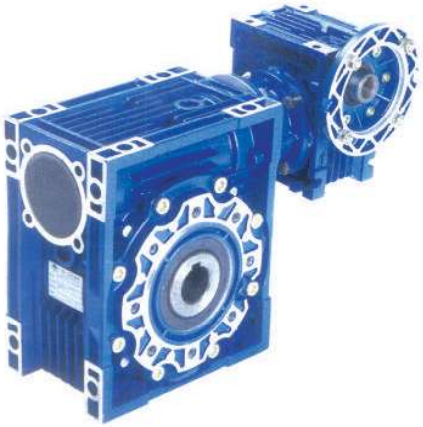
VARIATOR + ALM

ALM...B 3

ALM...B 5

ALM 025 ~ 130

ALW 030 ~130



ALM + ALM

ALM + ALW

Premium 'AL' Series Gearboxes

Premium Energy Transmission provides most comprehensive range of gearboxes for over 40 years in India. Wide range of Power Transmission products offered by Premium enjoy the international reputation for quality and reliability. Over one million gears supplied by Premium are working to the entire satisfaction of our valued customers. Naturally customers keep coming back to us making Premium retain **'Leadership in Power Transmission'.**

Technical Characteristics :

Premium 'AL' series gearboxes are manufactured with high quality material and modern design in order to guarantee the maximum reliability and life.

Housing, flanges and feet are made out of aluminium alloy upto size 090 and for sizes 110 and above cast iron is used.

Wormshafts are made of steel and are case hardened to 58-60 HRC and profile ground.

The thread grinding in the gear ratios that the module value permits is carried out with ZI-Profile. This improves the contact between the toothed surfaces and therefore performance and reduces operating noise.

The wormwheel has a G20 cast iron hub onto which a casting in AB1 Bronze RIM is fitted.

To guarantee long life, ball bearings of reputed make used.

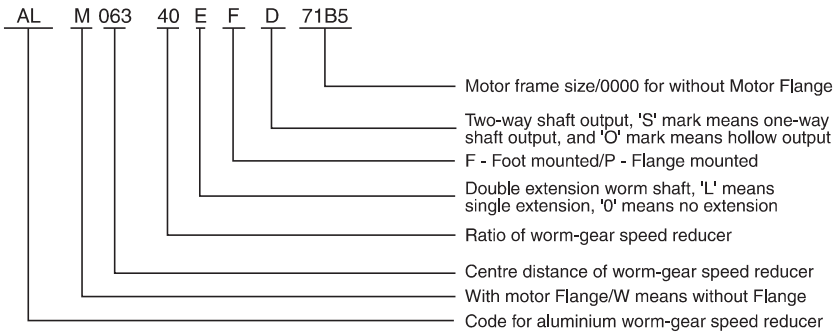
Lubrication of Gearboxes :

Gearboxes are supplied filled with synthetic oil grade ISO VG 320 which is virtually maintenance free and does not require oil change.

Measurement Units

i	= Ratio of the gear unit
n1	= Input speed (rpm)
$T2^{'}$	= Motor output torque (NM)
Tc	= Ambient temperature (°C)
T2	= Gear Box output torque (NM)
P	= Gear Unit Power (Kw)
FS	= Service Factor
n2	= Output speed (rpm)

Model & mark



Premium 'AL' Series Gearbox Selection

Gearbox Selection :

In order to select the right gearbox, the torque T2' required by the user and the output speed n2 for a certain value of n1 rpm must be taken into consideration. Given the values, select the corresponding gearbox referring to the tables of the gearbox performance where T2' x FS is lower or equal to T2 where FS is the application service factor.

Service factor :

The service factor FS permits approximate qualification of the type of application, taking into account the type of load, length of operation hr/d (hours/day) and the number of start-up/hour. The FS values reported in Table 1 refer to a drive unit with an electric motor. If a combustion engine is used, a multiplication factor of 1.5 must be applied. If the electric motor applied is self-breaking, consider twice the number of start-up than those actually required.

TABLE 1

SERVICE FACTOR (FS)										
PRIME MOVER	hr/d	UNIFORM LOAD					MODERATE SHOCK LOAD		HEAVY SHOCK LOAD	
		No. of start-up per hr.					No. of start-up per hr.		No. of start-up per hr.	
		4	16	32	125	500	16	500	16	500
HYDRAULIC / ELECTRIC MOTOR	4	0.8	0.9	1.0	1.1	1.2	1.0	1.3	1.3	1.5
	8	1.0	1.1	1.3	1.3	1.3	1.3	1.5	1.5	1.8
	16	1.3	1.3	1.5	1.5	1.5	1.5	1.8	1.8	2.2
	24	1.5	1.5	1.8	1.8	1.8	1.8	2.2	2.2	2.5

Installation :

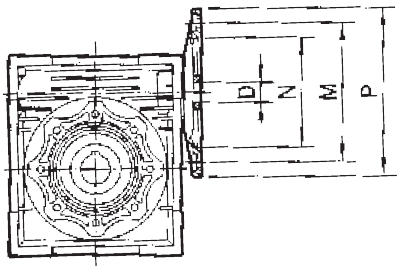
Install the gearbox and eliminate all vibrations. Take special care over alignment between the gear unit, the motor and the driven machine, fitting flexible or self-adjusting couplings wherever possible. When the gearbox is subject to prolonged overloads, shocks or possible jamming, fit thermostatic cut-outs, torque limiters, hydraulic couplings or other similar devices (take care not to exceed the permitted radial and axial loads on the input and output shafts). Ensure that the components to be assembled on the gearboxes are machined with tolerance SHAFT ISO h6/ HOLE ISO H7. Before assembling, clean and lubricate the surface to prevent jamming and contact oxidation. Assembly and disassembly should be made with care and possibly using the tapped hole in the end of the shaft which is provided for this purpose. When painting, protect the oilseals to prevent the paint from drying the rubber and impairing sealing properties.

Maintenance:

"Life" lubricated gearboxes do not require any maintenance as they are supplied with the correct quantity of synthetic oil. On gear units lubricated with mineral oil, after the first 500 -1000 operating hours change the oil, washing out the inside of the gear unit thoroughly. Synthetic lubricants are not compatible and hence should not be mixed with mineral lubricants.

Storage : In order to preserve and keep performances of the gearboxes unaltered, we suggest to follow these instructions:

- Do not store outdoors or in humid areas, protect the working parts (shafts, surfaces and flanges) with antioxidants.
- When the gearbox is left unused in an environment with high humidity, fill it completely with oil.
- Naturally, it must be returned to the operating level before the unit is used again.



ALM

THE CONFIGURATION COMBINE ALM SPEC WITH MOTORS COUPLING FLANGE AND RATIO

(*) If you want special key, Please call our Technical Service

SIZE	Motor Flange				D The hole diameter of input shaft										
					Transmission ratio										
	MOTOR FRAME	P	M	N	7.5	10	15	20	25	30	40	50	60	80	100
ALM025	56B14	80	65	50	9	9	9	9	9	9	9	9	9		
ALM030	63B5	140	115	95	11	11	11	11	11	11	11	11			
	63B14	90	75	60											
	56B5	120	100	80	9	9	9	9	9	9	9	9	9	9	
	56B14	80	65	50											
ALM040	71B5	160	130	110	14	14	14	14	14	14	14				
	71B14	105	85	70											
	63B5	140	115	95	11	11	11	11	11	11	11	11	11	11	11
	63B14	90	75	60											
	56B5	120	100	80								9	9	9	9
ALM050	80B5	200	165	130	19	19	19	19	19	19					
	80B14	120	100	80											
	71B5	160	130	110	14	14	14	14	14	14	14	14	14	14	
	71B14	105	85	70											
	63B5	140	115	95								11	11	11	11
ALM063	90B5	200	165	130	24	24	24	24	24	24	24				
	90B14	140	115	95											
	80B5	200	165	130	19	19	19	19	19	19	19	19	19	19	
	80B14	120	100	80											
	71B5	160	130	110							14	14	14	14	14
	71B14	105	85	70											
ALM075	110/112B5	250	215	180	28	28	28								
	110/112B14	160	130	110											
	90B5	200	165	130	24	24	24	24	24	24	24				
	90B14	140	115	95											
	80B5	200	165	130				19	19	19	19	19	19	19	19
	80B14	120	100	80											
	71B5	160	130	110								14	14	14	14
ALM090	100/112B5	250	215	180	28	28	28	28	28	28					
	110/112B14	160	130	110											
	90B5	200	165	130	24	24	24	24	24	24	24	24	24		
	90B14	140	115	95											
	80B5	200	165	130							19	19	19	19	19
	80B14	120	100	80											
ALM110	132B5	300	265	230	38*	38*	38*	38*							
	110/112B5	250	215	180	28	28	28	28	28	28	28	28	28		
	90B5	200	165	130					24	24	24	24	24	24	24
	80B5	200	165	130										19	19
ALM130	132B5	300	265	230	38*	38*	38*	38*	38*	38*	38*				
	100/112B5	250	215	180					28	28	28	28	28	28	28
	90B5	200	165	130										24	24

PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.12	373.3	2.7	7.5	399	3	ALM025	5622
	280	3.5	10	439	2.6		
	186.7	5.1	15	503	1.8		
	140	6.5	20	553	1.4		
	112	7.9	25	590	1.1		
	93.3	9.0	30	633	1		
	70	11	40	697	0.8		
	186.7	5.2	7.5	683	3.4	ALM030	6314
	140	6.6	10	752	2.7		
	93.3	9.3	15	861	1.9		
	70	12	20	948	1.5		
	56	14	25	1021	1.5		
	46.7	16	30	1085	1.3		
	35	19	40	1194	0.9		
	28	22	50	1286	0.8		
	46.7	17	30	2087	2.6	ALM040	6314
	35	21	40	2298	1.9		
	28	25	50	2475	1.5		
	23.3	28	60	2630	1.3		
	17.5	33	80	2895	1		
	14	38	100	3118	0.8		
	18.7	42	75	2833	1.2	PU063 + ALM040	6314
	15.6	46	90	3011	1.2		
	11.7	57	120	3314	0.9		
	9.3	66	150	3490	0.7		
	7.8	74	180	3490	0.6		
	23.3	29	60	3610	2.3	ALM050	6314
	17.5	35	80	3973	1.9		
	14	39	100	4280	1.4		
	9.3	68	150	4840	1.3	PU063 + ALM050	6314
	7.8	75	180	4840	1.1		
	5.8	88	240	4840	0.8		
	4.7	98	300	4840	0.7		
	4.7	112	300	4840	1.2	ALM030 + 050	6314
	3.5	138	400	4840	0.9		
	2.8	160	500	4840	0.7		
	5.8	92	240	6270	1.5	PU063 + ALM063	6314
	4.7	103	300	6270	1.2		
	2.8	168	500	6270	1.3	ALM030 + 063	6314
	2.3	199	600	6270	1.1		
	1.9	217	750	6270	0.9		
	1.6	279	900	7380	1.2	ALM040 + 075	6314
	1.2	344	1200	7380	0.9		
	0.78	470	1800	8180	0.9	ALM040 + 090	6314
	0.58	593	2400	8180	0.9		
	0.47	731	3000	10320	1.2	ALM050 + 110	6314
	0.35	884	4000	10320	1		
	0.28	1023	5000	10320	0.8		

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.18	373.3	4.0	7.5	542	3.2	**ALM030**	**6312**
	280	5.2	10	597	2.5		
	186.7	7.4	15	683	1.7		
	140	9.5	20	752	1.3		
	112	11	25	810	1.4		
	93.3	13	30	861	1.1		
	70	16	40	948	0.9		
	186.7	7.7	7.5	683	2.3	**ALM030**	**6324**
	140	10	10	752	1.8		
	93.3	14	15	861	1.3		
	70	18	20	948	1		
	56	20	25	1021	0.9		
	46.7	24	30	1085	0.8		
	93.3	14	30	1657	2.4	**ALM040**	**6312**
	70	17	40	1824	1.8		
	56	21	50	1964	1.4		
	70	19	20	1824	2	**ALM040**	**6324**
	56	23	25	1964	1.7		
	46.7	25	30	2087	1.7		
	35	32	40	2298	1.3		
	28	37	50	2475	1		
	23.3	42	60	2630	0.8		
	45	28	20	2113	1.5	**ALM040**	**7116**
	36	34	25	2276	1.3		
	30	38	30	2419	1.3		
	22.5	47	40	2662	1		
	18.7	64	75	2833	0.8	**PU063 + ALM040**	**6324**
	15.6	70	90	3011	0.8		
	11.7	85	120	3314	0.6		
	46.7	24	60	2865	2.1	**ALM050**	**6312**
	35	30	80	3153	1.5		
	28	34	100	3397	1.2		
	35	33	40	3153	2.3	**ALM050**	**6324**
	28	39	50	3397	1.9		
	23.3	44	60	3610	1.6		
	17.5	52	80	3973	1.2		
	14	59	100	4280	0.9		
	18	56	50	3936	1.4	**ALM050**	**7116**
	15	63	60	4183	1.1		
	11.3	75	80	4604	0.9		
	18.7	64	75	3889	1.4	**PU063 + ALM050**	**6324**
	15.6	71	90	4132	1.5		
	11.7	87	120	4548	1.1		
	9.3	101	150	4840	0.9		
	7.8	113	180	4840	0.7		
	5.8	133	240	4840	0.6		

PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.18	12 10 7.5	95 105 126	75 90 120	4506 4788 4840	1.2 1.4 1	**PU071-ALM050**	**7116**
	15 11.3 9	66 79 90	60 80 100	5467 6018 6270	2.1 1.6 1.4	**ALM063**	**7116**
	9.3 7.8 5.8 4.7	103 117 139 155	150 180 240 300	6270 6270 6270 6270	1.7 1.4 1 0.8	**PU063 - ALM063**	**6324**
	12 10 7.5 6 5 3.8 3	97 107 131 152 168 197 218	75 90 120 150 180 240 300	5889 6250 6270 6270 6270 6270 6270	2.2 2.4 1.8 1.4 1.2 0.9 0.7	**PU071 - ALM063**	**7116**
	3.5 2.8	216 252	400 500	6270 6270	1 0.8	**ALM030/063**	**6324**
	5 3.8 3	179 211 235	180 240 300	7380 7380 7380	1.7 1.2 1	**PU071 - ALM075**	**7116**
	2.3 1.9 1.6	336 371 419	600 750 900	7380 7380 7380	1.1 0.9 0.8	**ALM040/075**	**6324**
	1.2 0.93	544 647	1200 1500	8180 8180	1 0.8	**ALM050/110**	**6324**
	0.78 0.58	727 948	1800 2400	10320 10320	1.5 1.1	**ALM050/110**	**6324**
0.25	373.3 280 186.7 140 112 93.3	5.6 7.2 10 13 15 18	7.5 10 15 20 25 30	542 597 683 752 810 861	2.3 1.8 1.3 0.9 1 0.8	**ALM030**	**6322**
	186.7 140 93.3 70 56 46.7 35	11 14 20 26 32 35 44	7.5 10 15 20 25 30 40	1315 1447 1657 1824 1964 2087 2298	3.6 2.8 1.9 1.5 1.2 1.3 0.9	**ALM040**	**7114**

PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.25	120	17	7.5	1524	2.6	**ALM040**	**7126**
	90	22	10	1677	2		
	60	31	15	1920	1.4		
	45	39	20	2113	1.1		
	36	48	25	2276	0.9		
	30	53	30	2419	0.9		
	35	42	80	3153	1.1	**ALM050**	**6322**
	28	48	100	3397	0.8		
	70	27	20	2503	2.7	**ALM050**	**7114**
	56	32	25	2696	2.2		
	46.7	36	30	2865	2.3		
	35	46	40	3153	1.7		
	28	54	50	3397	1.4		
	23.3	60	60	3610	1.1		
	17.5	72	80	3973	0.9		
	45	40	20	2900	1.9	**ALM050**	**7126**
	36	48	25	3124	1.5		
	30	54	30	3320	1.7		
	22.5	67	40	3654	1.2		
	18	78	50	3936	1		
	15	88	60	4183	0.8		
	18.7	88	75	3889	1	**PU071 - ALM050**	**7114**
	15.6	98	90	4132	1.1		
	11.7	121	120	4548	0.8		
	28	55	50	4440	2.4	**ALM063**	**7114**
	23.3	64	60	4719	2		
	17.5	76	80	5193	1.6		
	14	87	100	5595	1.4		
	18	81	50	5145	1.8	**ALM063**	**7126**
	15	92	60	5467	1.5		
	11.3	110	80	6018	1.2		
	9	125	100	6270	1		
	18.7	91	75	5083	1.8	**PU071 - ALM063**	**7114**
	15.6	100	90	5401	2		
	11.7	125	120	5945	1.5		
	9.3	143	150	6270	1.2		
	7.8	163	180	6270	1		
	5.8	192	240	6270	0.7		
	4.7	215	300	6270	0.6		
	12	135	75	5889	1.6	**PU071 - ALM063**	**7126**
	10	148	90	6259	1.8		
	7.5	181	120	6270	1.3		
	6	211	150	6270	1		
	7	150	400	6270	1.4	**ALM030 + 063**	**6322**
	5.6	175	500	6270	1.2		
	17.5	80	80	6130	2.3	**ALM075**	**7114**
	14	94	100	6603	1.9		

PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.25	11.3 9	116 133	80 100	7103 7380	1.7 1.4	**ALM075**	**7126**
	9.3 7.8 5.8 4.7	151 172 201 230	150 180 240 300	7380 7380 7380 7380	1.7 1.4 1.1 0.9	**PU071 - ALM075**	**7114**
	12 10 7.5 6 5	139 155 191 219 248	75 90 120 150 180	6952 7380 7380 7380 7380	2.4 2.5 1.9 1.5 1.2	**PU071 - ALM075**	**7126**
	3.5 2.8	321 375	400 500	7380 7380	1.1 0.8	**ALM040/075**	**7114**
	5 3.8 3	263 318 358	180 240 300	8180 8180 8180	1.9 1.4 1.1	**PU071 - ALM090**	**7126**
	2.3 1.9 1.6	488 553 612	600 750 900	8180 8180 8180	1.2 0.9 0.8	**ALM040/090**	**7114**
	1.2 0.93 0.78	776 924 1010	1200 1500 1800	10320 10320 10320	1.3 1.2 1.1	**ALM050/110**	**7114**
	0.58 0.47 0.35 0.28	1358 1626 1910 2132	2400 3000 4000 5000	13500 13500 13500 13500	1 0.8 0.6 0.5	**ALM063/130**	**7114**
0.37	373.3 280 186.7 140 112	8.3 11 16 20 25	7.5 10 15 20 25	1044 1149 1315 1447 1559	3.3 2.6 1.9 1.4 1.1	**ALM040**	**7112**
	186.7 140 93.3 70 56 46.7	16 21 30 39 47 52	7.5 10 15 20 25 30	1315 1447 1657 1824 1964 2087	2.4 1.9 1.3 1 0.8 0.8	**ALM040**	**7124**
	112 93.3 70 56 46.7 35	25 29 37 44 50 62	25 30 40 50 60 80	2140 2274 2503 2696 2865 3153	2 2.2 1.6 1.2 1 0.7	**ALM050**	**7112**

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.37	140	21	10	1987	3.3	ALM050	7124
	93.3	31	15	2274	2.4		
	70	39	20	2503	1.8		
	56	47	25	2696	1.5		
	46.7	54	30	2865	1.5		
	35	68	40	3153	1.1		
	28	80	50	3397	0.9		
	23.3	89	60	3610	0.8		
	120	25	7.5	2091	3.3	ALM050	8016
	90	33	10	2302	2.5		
	60	47	15	2635	1.8		
	45	59	20	2900	1.3		
	36	72	25	3124	1		
	30	80	30	3320	1.1		
	35	70	40	4122	2.1	ALM063	7124
	28	82	50	4440	1.6		
	23.3	94	60	4719	1.4		
	17.5	113	80	5193	1.1		
	14	129	100	5595	0.9		
	45	60	20	3791	2.4	ALM063	8016
	36	73	25	4084	1.9		
	30	82	30	4339	2.1		
	22.5	102	40	4776	1.6		
	18	120	50	5145	1.2		
	15	137	60	5467	1		
	18.7	134	75	5083	1.2	PU071 + ALM063	7124
	15.6	148	90	5401	1.4		
	11.7	185	120	5945	1		
	9.3	212	150	6270	0.8		
	9.3	182	300	6270	1.3	ALM030/063	7112
	7	222	400	6270	1		
	23.3	97	60	5569	2	ALM075	7124
	17.5	119	80	6130	1.6		
	14	139	100	6603	1.3		
	18	124	50	6073	1.8	ALM075	8016
	15	141	60	6453	1.5		
	11.3	172	80	7103	1.2		
	9	196	100	7380	1		
	18.7	138	75	6000	1.8	PU071 - ALM075	7124
	15.6	154	90	6375	1.9		
	11.7	191	120	7017	1.5		
	9.3	223	150	7380	1.1		
	7.8	254	180	7380	0.9		
	12	206	75	6952	1.6	PU080 - ALM075	8016
	10	230	90	7380	1.7		
	7.5	283	120	7380	1.3		
	6	324	150	7380	1		

PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.37	4.7 3.5	383 474	300 400	7380 7380	1 0.7	**ALM040/075**	**7124**
	11.3 9	184 212	80 100	7859 8180	1.7 1.3	**ALM090**	**8016**
	7.8 5.8 4.7	268 321 371	180 240 300	8180 8180 8180	1.5 1.1 0.9	**PU071 - ALM090**	**7124**
	6 5 3.8	347 389 471	150 180 240	8180 8180 8180	1.6 1.3 1	**PU080 - ALM090**	**8016**
	4.7 3.5 2.8 2.3	406 505 593 722	300 400 500 600	8180 8180 8180 8180	1.5 1.2 0.9 0.8	**ALM040/090**	**7124**
	3.8 3	509 577	240 300	10320 10320	1.6 1.3	**PU080 - ALM110**	**8016**
	1.9 1.6 1.2	837 928 1148	750 900 1200	10320 10320 10320	1.3 1.2 0.8	**ALM050 /110**	**7124**
	0.93 0.78	1444 1586	1500 1800	13500 13500	1.1 0.9	**ALM063/130**	**7124**
0.55	373.3 280 186.7 140 112	12 16 24 30 37	7.5 10 15 20 25	1044 1149 1315 1447 1559	2.2 1.8 1.3 0.9 0.8	**ALM040**	**7122**
	140 112 93.3 70 56 46.7	31 38 43 55 65 74	20 25 30 40 50 60	1987 2140 2274 2503 2696 2865	1.7 1.4 1.5 1.1 0.8 0.7	**ALM050**	**7122**
	186.7 140 93.3 70 56 46.7	24 32 46 59 70 80	7.5 10 15 20 25 30	1805 1987 2274 2503 2696 2865	2.9 2.2 1.6 1.2 1 1	**ALM050**	**8014**
	120 90 60 45	37 48 69 88	7.5 10 15 20	2091 2302 2635 2900	2.2 1.7 1.2 0.9	**ALM050**	**8026**

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.55	70	56	40	3272	1.9	ALM063	7122
	56	68	50	3524	1.5		
	46.7	78	60	3745	1.2		
	35	96	80	4122	0.9		
	28	111	100	4440	0.7		
	70	60	20	3272	2.2	ALM063	8014
	56	72	25	3524	1.8		
	46.7	82	30	3745	1.9		
	35	104	40	4122	1.4		
	28	122	50	4440	1.1		
	23.3	140	60	4719	0.9		
	60	70	15	3444	2.2	ALM063	8026
	45	90	20	3791	1.6		
	36	108	25	4084	1.4		
	30	123	30	4339	1.3		
	22.5	152	40	4776	1.1		
	35	99	80	4865	1.3	ALM075	7122
	28	116	100	5241	1		
	35	108	40	4865	2	ALM075	8014
	28	128	50	5241	1.6		
	23.3	144	60	5569	1.4		
	17.5	177	80	6130	1.1		
	14	206	110	6603	0.9		
	30	124	30	5122	2	ALM075	8026
	22.5	156	40	5637	1.5		
	18	184	50	6073	1.2		
	15	210	60	6453	1		
	18.7	205	75	6000	1.2	PU080 - ALM075	8014
	15.6	230	90	6375	1.3		
	11.7	284	120	7017	1		
	9.3	332	150	7380	0.8		
	12	306	75	6952	1.1	PU080 - ALM075	8026
	10	341	90	7380	1.1		
	17.5	189	80	6783	1.5	ALM090	8014
	14	221	100	7306	1.2		
	18	196	50	6719	2	ALM090	8026
	15	224	60	7140	1.6		
	11.3	274	80	7859	1.1		
	9	315	100	8180	0.9		
	15.6	240	90	7054	2.3	PU080 - ALM090	8014
	11.7	297	120	7764	1.6		
	9.3	355	150	8180	1.3		
	7.8	398	180	8180	1		

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P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.55	10	357	90	8174	2	**PU080 - ALM090**	**8025**
	7.5	441	120	8180	1.4		
	6	516	150	8180	1.1		
	5	578	180	8180	0.9		
	9.3	305	300	8180	2	**ALM040/090**	**7122**
	7	375	400	8180	1.5		
	5.6	441	500	8180	1.2		
	17.5	201	80	8571	2.6	**ALM110**	**8014**
	14	236	100	9232	2		
	11.3	293	80	9931	1.9	**ALM110**	**8026**
	9	344	100	10320	1.5		
	7.8	425	180	10320	1.8	**PU080 - ALM110**	**8014**
	5.8	513	240	10320	1.3		
	4.7	597	300	10320	1		
	7.5	462	120	10320	2.6	**PU080 - ALM110**	**8026**
	6	552	150	10320	2		
	5	620	180	10320	1.6		
	3.8	756	240	10320	1.1		
	4.7	615	300	10320	2	**ALM050/110**	**8014**
	3.5	810	400	10320	1.4		
	2.8	938	500	10320	1.1		
	2.3	1096	600	10320	1		
	1.9	1244	750	10320	0.9		
	3.8	756	240	13500	1.6	**PU080 - ALM130**	**8026**
	3	858	300	13500	1.3		
	2.8	957	500	13500	1.6	**ALM063/130**	**8014**
	1.9	1382	750	13500	1.2		
	1.2	2057	1200	13500	0.8		
0.75	373.3	17	7.5	1433	3	**ALM050**	**8012**
	280	22	10	1577	2.4		
	186.7	31	15	1805	1.7		
	140	41	20	1987	1.3		
	112	49	25	2140	1		
	93.3	56	30	2274	1.1		
	186.7	33	7.5	1805	2.1	**ALM050**	**8024**
	140	43	10	1987	1.6		
	93.3	62	15	2274	1.2		
	70	80	20	2503	0.9		
	140	43	20	2597	2.3	**ALM063**	**8012**
	112	52	25	2797	1.8		
	93.3	60	30	2973	2		
	70	77	40	3272	1.4		
	56	92	50	3524	1.1		
	46.7	106	60	3745	0.9		

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.75	93.3	63	15	2973	2.2	**ALM063**	**8024**
	70	82	20	3272	1.6		
	56	98	25	3524	1.3		
	46.7	112	30	3745	1.4		
	35	141	40	4122	1		
	120	51	7.5	2734	2.9	**ALM063**	**90S6**
	90	67	10	3009	2.3		
	60	96	15	3444	1.6		
	45	123	20	3791	1.2		
	36	147	25	4084	0.9		
	30	167	30	4339	1		
	46.7	107	60	4421	1.3	**ALM075**	**8012**
	28	159	100	5241	0.8		
	56	101	25	4160	2	**ALM075**	**8024**
	46.7	117	30	4421	2		
	35	147	40	4865	1.5		
	28	174	50	5211	1.2		
	23.3	197	60	5569	1		
	60	97	15	4065	2.4	**ALM075**	**90S6**
	45	124	20	4474	1.9		
	36	149	25	4820	1.4		
	30	170	30	5122	1.5		
	22.5	213	40	5637	1.1		
	18.7	280	75	6000	0.9	**PU080 - ALM075**	**8024**
	15.6	313	90	6375	1		
	35	143	80	5383	1.6	**ALM090**	**8012**
	28	169	100	5799	1.2		
	28	182	50	5799	1.8	**ALM090**	**8024**
	23.3	209	60	6163	1.5		
	17.5	258	80	6783	1.1		
	14	302	100	7306	0.9		
	30	179	30	5667	2.6	**ALM090**	**90S6**
	22.5	226	40	6238	1.8		
	18	267	50	6719	1.4		
	15	306	60	7140	1.1		
	15.6	327	90	7054	1.7	**PU080 - ALM090**	**8024**
	11.7	405	120	7764	1.2		
	9.3	483	150	8180	0.9		
	7.8	543	180	8180	0.7		
	7	512	400	8180	1.1	**ALM040/090**	**8012**
	5.6	601	500	8180	0.9		
	17.5	274	80	8571	1.9	**ALM110**	**8024**
	14	322	100	9232	1.5		

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P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
0.75	15	325	60	9023	2.1	**ALM110**	**90S6**
	11.3	399	80	9931	1.4		
	9	470	100	10320	1.1		
	11.7	430	120	9811	2.2	**PU080 - ALM110**	**8024**
	9.3	506	150	10320	1.7		
	7.8	580	180	10320	1.3		
	5.8	700	240	10320	0.9		
	12.4	393	73	9614	3.2	**PU090 - ALM110**	**90S6**
	9.3	508	96.8	10320	2.3		
	7.4	607	121	10320	1.8		
	6.2	682	145.2	10320	1.5		
	4.6	832	193.6	10320	1		
	9.3	424	300	10320	2.8	**ALM050/110**	**8012**
	7	553	400	10320	2.1		
	5.6	640	500	10320	1.6		
	4.7	838	300	10320	1.5	**ALM050/110**	**8024**
	3.5	1105	400	10320	1.1		
	11.3	399	80	12989	2.1	**ALM130**	**90S6**
	9	470	100	13500	1.7		
	5.8	712	240	13500	1.4	**PU080 - ALM130**	**8024**
	4.7	813	300	13500	1.1		
	12.4	399	73	12575	4.4	**PU090 - ALM130**	**90S6**
	9.3	508	96.8	13500	3.2		
	7.4	607	121	13500	2.6		
	6.2	682	145.2	13500	2.1		
	4.6	832	193.6	13500	1.5		
	3.7	944	242	13500	1.2		
	2.8	1305	500	13500	1.1	**ALM063/130**	**8024**
	2.3	1557	600	13500	1		
	1.9	1772	750	13500	0.9		
	1.6	2014	900	13500	0.8		
1.1	373.3	25	7.5	1433	2.1	**ALM050**	**8022**
	280	33	10	1577	1.6		
	186.7	48	15	1805	1.2		
	140	62	20	1987	0.9		
	186.7	46	15	2359	2.1	**ALM063**	**8022**
	140	60	20	2597	1.6		
	112	72	25	2797	1.2		
	93.3	82	30	2973	1.4		
	70	104	40	3272	1		
	120	75	7.5	2734	2	**ALM063**	**90L6**
	90	98	10	3009	1,5		
	60	140	15	3444	1.1		
	45	180	20	3791	0.8		

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
1.1	186.7 140 93.3 70 56 46.7	50 65 92 120 144 164	7.5 10 15 20 25 30	2359 2597 2973 3272 3524 3745	2.6 2 1.5 1.1 0.9 1	**ALM063**	**90S4**
	112 93.3 70 56 46.7	77 89 114 137 157	25 30 40 50 60	3302 3509 3862 4160 4421	1.9 1.9 1.4 1.1 0.9	**ALM075**	**8022**
	90 60 45 36 30	98 142 182 219 249	10 15 20 25 30	3551 4065 4475 4820 5122	2.3 1.6 1.3 1 1	**ALM075**	**90L6**
	93.3 70 56 46.7 35	95 122 148 171 216	15 20 25 30 40	3609 3862 4160 4421 4865	2.1 1.7 1.3 1.3 1	**ALM075**	**90S4**
	35 28	210 248	80 100	5383 5799	1.1 0.8	**ALM090**	**8022**
	36 30 22.5 18 15	228 263 331 391 448	25 30 40 50 60	5333 5667 6238 6719 7140	1.6 1.8 1.2 1 0.8	**ALM090**	**90L6**
	35 28 23.3	222 266 307	40 50 60	5383 5799 6163	1.6 1.3 1	**ALM090**	**90S4**
	22.5 18 15 11.3	345 414 476 586	40 50 60 80	7882 8491 9023 9931	2.3 1.8 1.4 1	**ALM110**	**90L6**
	28 23.3 17.5 14	278 325 402 473	50 60 80 100	7328 7787 8571 9232	2.3 1.9 1.3 1	**ALM110**	**90S4**
	12.4 9.3 7.4 6.2	576 746 890 1000	73 96.8 121 145.2	9614 10320 10320 10320	2.2 1.6 1.2 1	**PU090 - ALM110**	**90L6**
	19.3 14.5	392 508	73 96.8	8298 9133	2.5 1.8	**PU090 - ALM110**	**90S4**

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P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
1.1	11.6 9.6 7.2	599 686 828	121 145.2 193.6	9838 10320 10320	1.5 1.1 0.8	**PU090 - ALM110**	**90S4**
	9.3 7 5.6	621 810 938	300 400 500	10320 10320 10320	1.9 1.4 1.1	**ALM050/110**	**8022**
	11.3 9	586 689	80 100	12989 13500	1.4 1.1	**ALM130**	**90L6**
	17.5 14	408 480	80 100	11210 12076	2.1 1.5	**ALM130**	**90S4**
	12.4 9.3 7.4 6.2 4.6	585 746 890 1000 1220	73 96.8 121 145.2 193.6	12575 13500 13500 13500 13500	3 2.2 1.7 1.4 1	**PU090 - ALM130**	**90L6**
	19.3 14.5 11.6 9.6 7.2 5.8	398 508 608 686 843 962	73 96.8 121 145.2 193.6 242	10853 11945 12868 13500 13500 13500	3.5 2.6 2 1.6 1.2 0.9	**PU090 - ALM130**	**90S4**
	4.7 3.5 2.8	1274 1621 1913	300 400 500	13500 13500 13500	1.3 1 0.8	**ALM063/130**	**90S4**
1.5	373.3 280 186.7	34 45 65	7.5 10 15	1433 1577 1805	1.5 1.2 0.9	**ALM050**	**80C2**
	186.7 140 93.3 70	68 88 126 164	7.5 10 15 20	2359 2597 2973 3272	1.9 1.5 1.1 0.8	**ALM063**	**90L4**
	373.3 280 186.7 140 112 93.3	35 45 66 86 105 120	7.5 10 15 20 25 30	1873 2061 2359 2597 2797 2973	2.7 2.1 1.6 1.2 0.9 1	**ALM063**	**90S2**
	120 90 60	103 134 193	7.5 10 15	3227 3551 4065	2 1.7 1.2	**ALM075**	**100L6**
	56 46.7	187 215	50 60	4160 4421	0.8 0.7	**ALM075**	**90S2**

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
1.5	140	89	10	3065	2.2	**ALM075**	**90L4**
	93.3	129	15	3509	1.5		
	70	166	20	3862	1.3		
	56	202	25	4160	1		
	46.7	233	30	4421	1		
	280	45	10	2433	3.1	**ALM075**	**90S2**
	186.7	66	15	2785	2.2		
	140	86	20	3065	1.8		
	112	105	25	3302	1.4		
	93.3	121	30	3509	1.4		
	70	156	40	3862	1		
	90	137	10	3929	2.7	**ALM090**	**100L6**
	60	198	15	4498	2.1		
	45	258	20	4951	1.5		
	36	310	25	5333	1.2		
	30	358	30	5667	1.3		
	70	170	20	4273	2.1	**ALM090**	**90L4**
	56	207	25	4603	1.6		
	46.7	239	30	4891	1.7		
	35	303	40	5383	1.2		
	28	363	50	5799	0.9		
	23.3	418	60	6163	0.8		
	56	197	50	4603	1.4	**ALM090**	**90S2**
	46.7	227	60	4891	1.1		
	45	264	20	6256	2.7	**ALM110**	**100L6**
	36	322	25	6739	2.4		
	30	363	30	7161	2.3		
	22.5	471	40	7882	1.7		
	18	565	50	8491	1.3		
	15	649	60	9023	1.1		
	35	315	40	6803	2.2	**ALM110**	**90L4**
	28	379	50	7320	1.7		
	23.3	443	60	7787	1.4		
	17.5	548	80	8571	0.9		
	46.7	236	60	6181	2	**ALM110**	**90S2**
	35	299	80	6803	1.3		
	28	358	100	7328	1		
	19.3	535	73	8298	1.9	**PU090 - ALM110**	**90L4**
	14.5	693	96.8	9133	1.3		
	11.6	817	121	9838	1.1		
	9.6	936	145.2	10320	0.8		
	9.3	847	300	10320	1.4	**ALM050/110**	**90S2**
	7	1105	400	10320	1		
	5.6	1279	500	10320	0.8		

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P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
1.5	22.5	471	40	10309	2.3	ALM130	100L6
	18	565	50	11105	1.8		
	15	659	60	11801	1.4		
	11.3	799	80	12989	1.1		
	17.5	557	80	11210	1.5	ALM130	90L4
	14	655	100	12076	1.1		
	19.3	542	73	10853	2.6	PU090 - ALM130	90L4
	14.5	693	96.8	11945	1.9		
	11.6	830	121	12868	1.5		
	9.6	936	145.2	13500	1.1		
	7.2	1149	194	13500	0.8		
	9.3	878	300	13500	1.9	ALM063/130	90S2
	7	1105	400	13500	1.4		
	5.6	1305	500	13500	1.1		
	4.7	1737	300	13500	1	ALM063/130	90L4
	3.5	2210	400	13500	0.7		
2.2	373.3	51	7.5	1873	1.8	ALM063	90L2
	280	66	10	2061	1.5		
	186.7	97	15	2359	1.1		
	186.7	99	7.5	2785	1.8	ALM075	100LA4
	140	131	10	3065	1.5		
	93.3	189	15	3509	1		
	373.3	50	7.5	2210	2.5	ALM075	90L2
	280	66	10	2433	2.1		
	186.7	97	15	2785	1.5		
	140	126	20	3065	1.3		
	112	154	25	3302	1		
	93.3	178	30	3509	0.9		
	186.7	100	7.5	3081	2.9	ALM090	100LA4
	140	132	10	3391	2.3		
	93.3	191	15	3882	1.9		
	70	249	20	4273	1.4		
	56	304	25	4603	1.1		
	46.7	351	30	4891	1.2		
	120	154	7.5	3570	2.2	ALM090	112M6
	90	201	10	3929	1.8		
	60	291	15	4498	1.4		
	45	378	20	4951	1		
	140	129	20	3391	2	ALM090	90L2
	112	159	25	3653	1.6		
	93.3	185	30	3882	1.7		
	70	237	40	4273	1.2		
	56	289	50	4603	0.9		

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
2.2	70	255	20	5399	2.5	ALM110	100LA4
	56	311	25	5816	2.2		
	46.7	355	30	6181	2		
	35	462	40	6803	1.5		
	28	555	50	7328	1.2		
	23.3	649	60	7787	1		
	90	203	10	4965	3.5	ALM110	112M6
	60	294	15	5684	2.6		
	45	388	20	6256	1.9		
	36	473	25	6739	1.6		
	30	532	30	7161	1.6		
	112	161	25	4616	3.1	ALM110	90L2
	93.3	187	30	4905	3		
	70	243	40	5399	2.1		
	56	296	50	5816	1.7		
	46.7	346	60	6181	1.4		
	38.6	398	73	6586	2.1	PU090 - ALM110	90L2
	28.9	516	96.8	7249	1.5		
	23.1	617	121	7809	1.2		
	35	468	40	8897	2.2	ALM130	100LA4
	28	565	50	9584	1.7		
	23.3	658	60	10185	1.4		
	17.5	816	80	11210	1		
	36	473	25	8814	2.2	ALM130	112M6
	30	539	30	9366	2.1		
	22.5	691	40	10309	1.6		
	18	829	50	11105	1.2		
	15	966	60	11801	1		
	35	444	80	8897	1.3	ALM130	90L2
	28	525	100	9584	1		
	38.6	409	73	8614	2.9	PU090 - ALM130	90L2
	28.9	545	96.8	9481	2		
	23.1	654	121	10213	1.6		
	19.3	752	145.2	10853	1.3		
3.0	373.3	68	7.5	2210	1.9	ALM075	100L2
	280	90	10	2433	1.6		
	186.7	135	7.5	2785	1.4	ALM075	100LB4
	140	178	10	3065	1.1		
	93.3	258	15	3509	0.8		
	373.3	70	7.5	2446	3	ALM090	100L2
	280	92	10	2692	2.6		
	186.7	137	7.5	3081	2.1	ALM090	100LB4
	140	180	10	3391	1.7		
	93.3	261	15	3882	1.4		

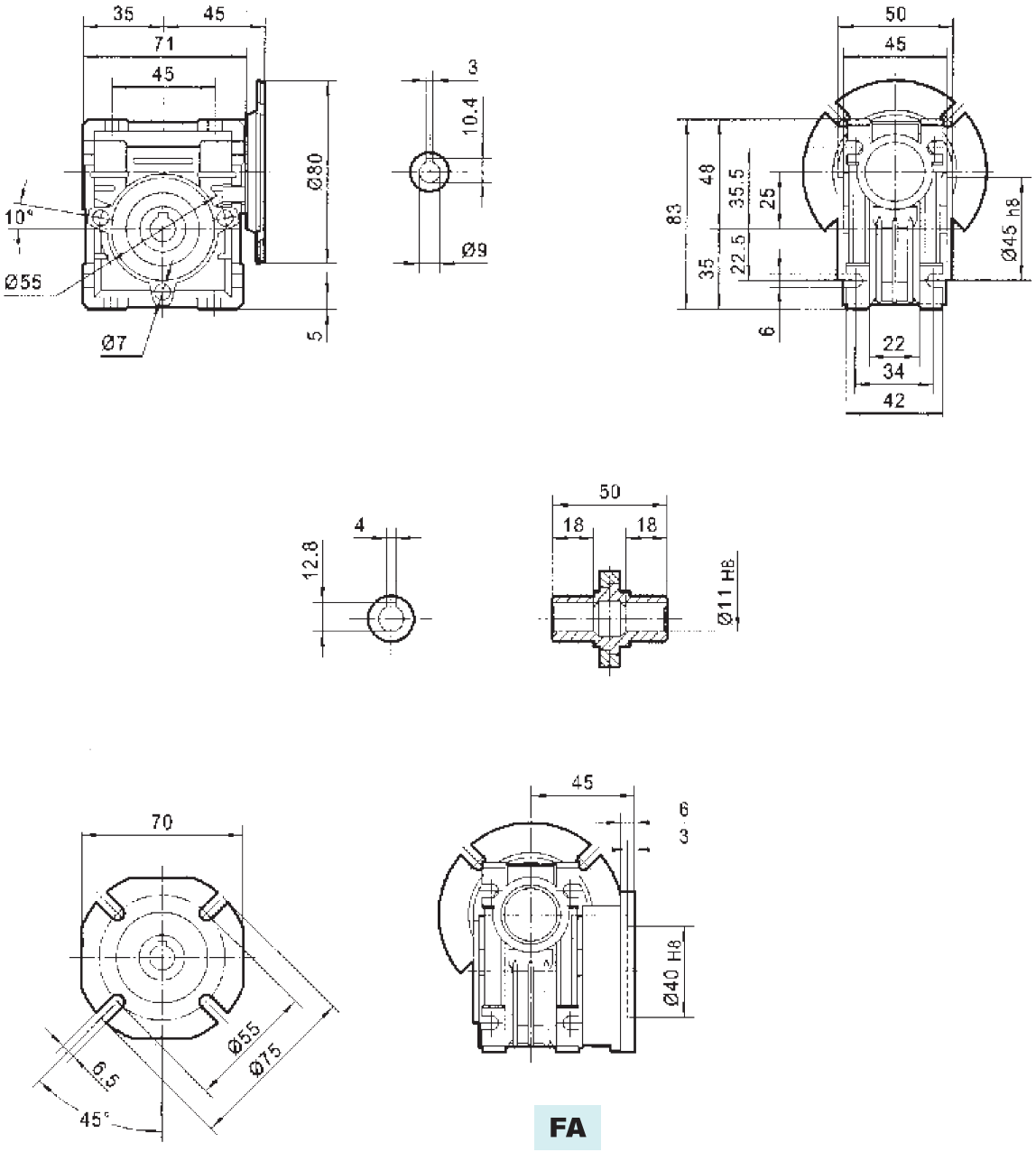
PERFORMANCE PARAMETER

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
3.0	70	340	20	4273	1	**ALM090**	**100LB4**
	56	414	25	4603	0.8		
	46.7	479	30	4891	0.9		
	93.3	264	15	4905	2.5	**ALM110**	**100LB4**
	70	348	20	5399	1.9		
	56	425	25	5816	1.6		
	46.7	485	30	6181	1.5		
	35	630	40	6803	1.1		
	28	757	50	7328	0.9		
	120	210	7.5	4511	3.1	**ALM110**	**132S6**
	90	277	10	4965	2.5		
	60	401	15	5684	1.9		
	45	528	20	6256	1.4		
	56	430	25	7607	2.2	**ALM130**	**100LB4**
	46.7	491	30	8082	2.1		
	35	638	40	8897	1.6		
	28	767	50	9584	1.3		
	23.3	898	60	10185	1		
	17.5	1113	80	11210	0.8		
	90	277	10	6494	3.4	**ALM130**	**132S6**
	60	406	15	7434	2.6		
	45	528	20	8182	1.9		
	36	645	25	8814	1.6		
	30	735	30	9366	1.6		
	22.5	942	40	10309	1.2		
4.0	373.3	91	7.5	2210	1.4	**ALM075**	**112M2**
	280	120	10	2433	1.2		
	186.7	180	7.5	2785	1	**ALM075**	**112M4**
	140	237	10	3065	0.8		
	373.3	93	7.5	2446	2.2	**ALM090**	**112M2**
	280	123	10	2692	1.9		
	186.7	182	7.5	3081	1.6	**ALM090**	**112M4**
	140	240	10	3391	1.3		
	93.3	348	15	3882	1		
	70	453	20	4273	0.8		
	140	240	10	4285	2.5	**ALM110**	**112M4**
	93.3	352	15	4905	1.9		
	70	464	20	5399	1.4		
	56	566	25	5816	1.2		
	46.7	646	30	6181	1.1		
	120	280	7.5	4511	2.3	**ALM110**	**132MA6**
	90	369	10	4965	1.9		
	60	353	15	5684	1.4		

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i	Fr_2 [N]	f_s		
4.0	56	573	25	7607	1.6	ALM130	112M4
	46.7	654	30	8084	1.6		
	35	851	40	8897	1.2		
	28	1023	50	9584	1		
	23.3	1197	60	10185	0.8		
	120	283	7.5	5901	3.1	ALM130	132MA6
	90	369	10	6494	2.6		
	60	541	15	7434	2		
	45	705	20	8182	1.5		
	36	860	25	8814	1.2		
5.5	186.7	250	7.5	3893	2.2	ALM110	132S4
	140	330	10	4285	1.8		
	93.3	484	15	4905	1.4		
	70	638	20	5399	1		
	140	334	10	5605	2.5	ALM130	132S4
	93.3	490	15	6416	1.9		
	70	638	20	7062	1.4		
	56	788	25	7607	1.2		
	46.7	900	30	8084	1.2		
	35	1171	40	8897	0.9		
7.5	186.7	341	7.5	3893	1.6	ALM110	132M4
	140	450	10	4285	1.3		
	93.3	660	15	4905	1		
	186.7	345	7.5	5092	2.1	ALM130	132M4
	140	455	10	5605	1.8		
	93.3	668	15	6416	1.4		
	70	870	20	7062	1		
	56	1074	25	7607	0.9		
	46.7	1227	30	8084	0.8		
	35	1596	40	8897	0.7		

OUTLINE DIMENSION SHEET

ALM - WORM GEAR UNITS - **ALM025**

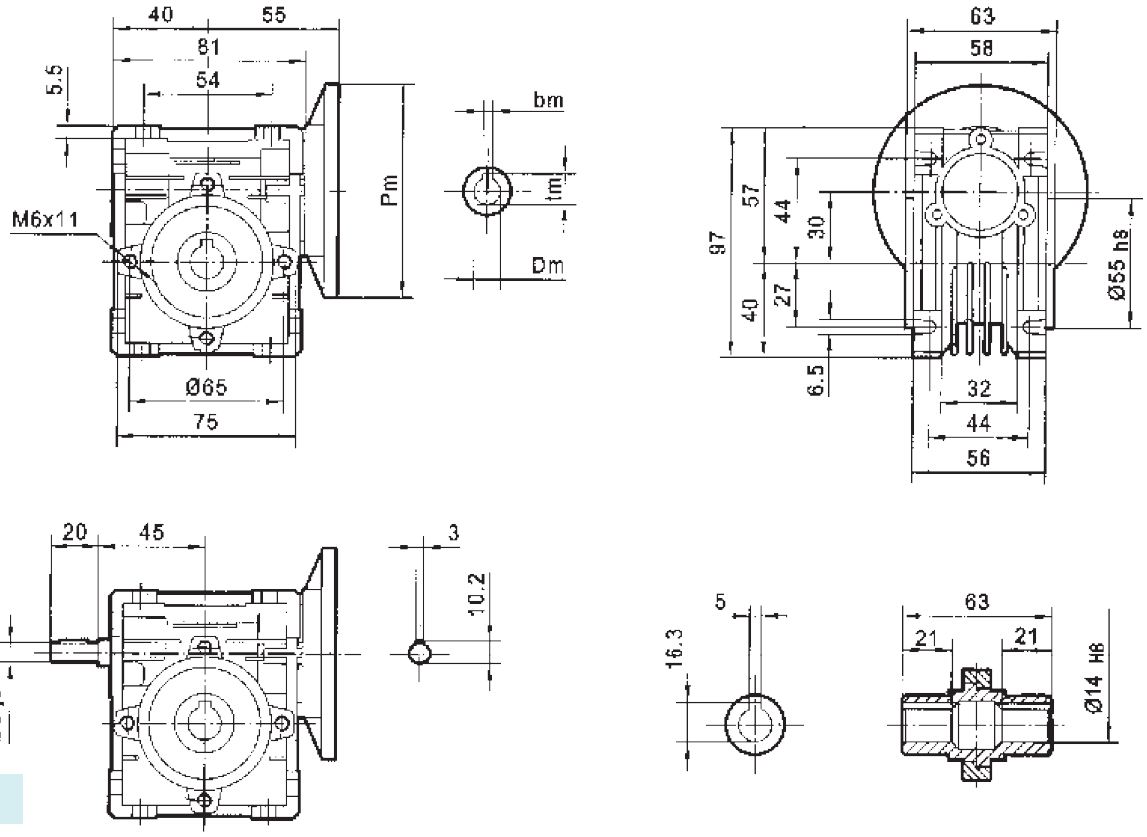


FA

Weight without motor ≈ 0.7 kg

OUTLINE DIMENSION SHEET

ALM030

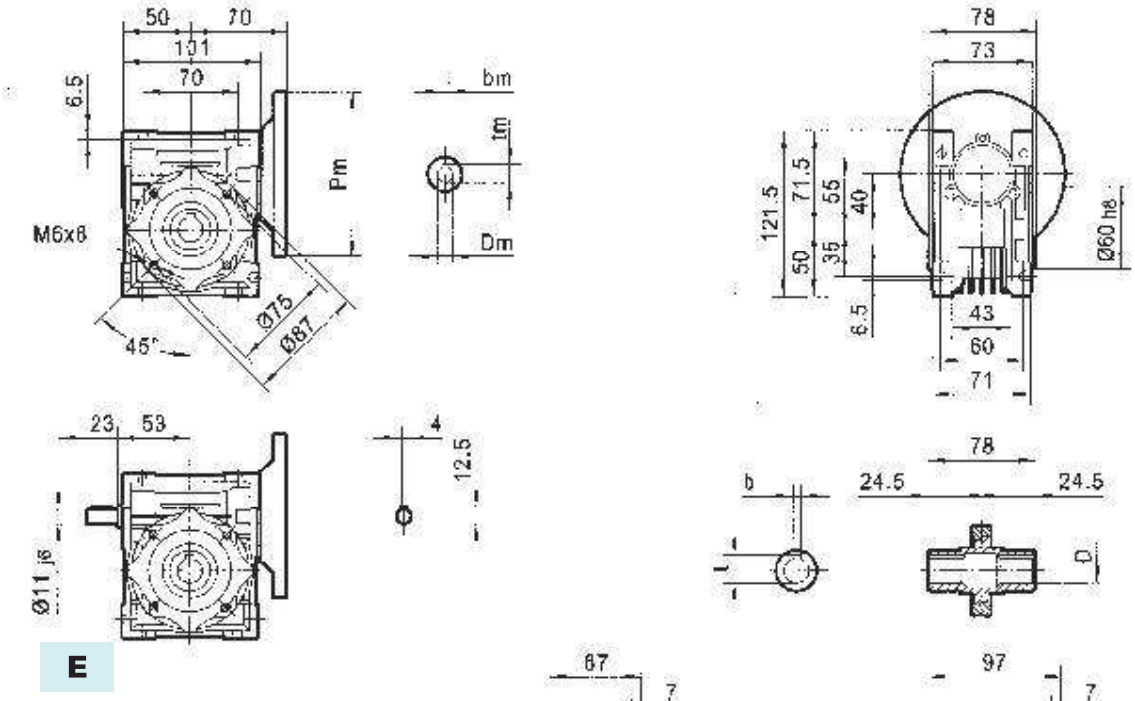


Motor Frame	P_m	D_m E8	b_m	t_m
63B5	140	11	4	12.8
56B5	120	9	3	10.4
63B14	90	11	4	12.8
56B14	80	9	3	10.4

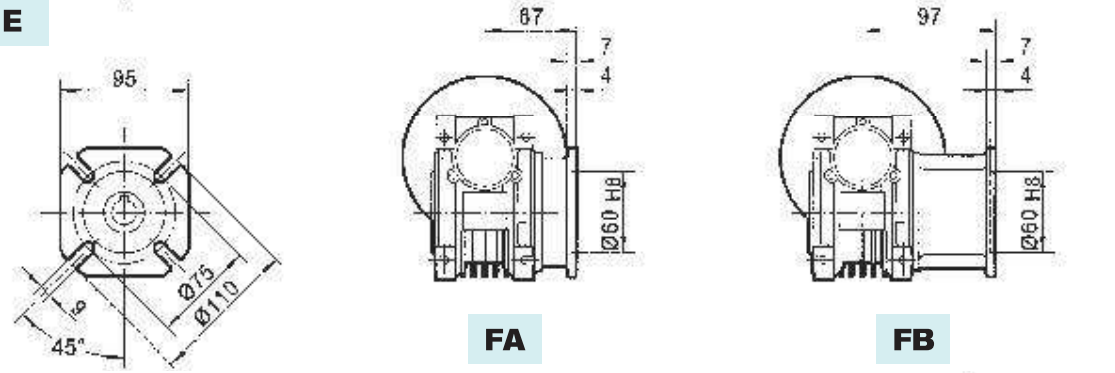
Weight without motor ≈ 1.2 kg

OUTLINE DIMENSION SHEET

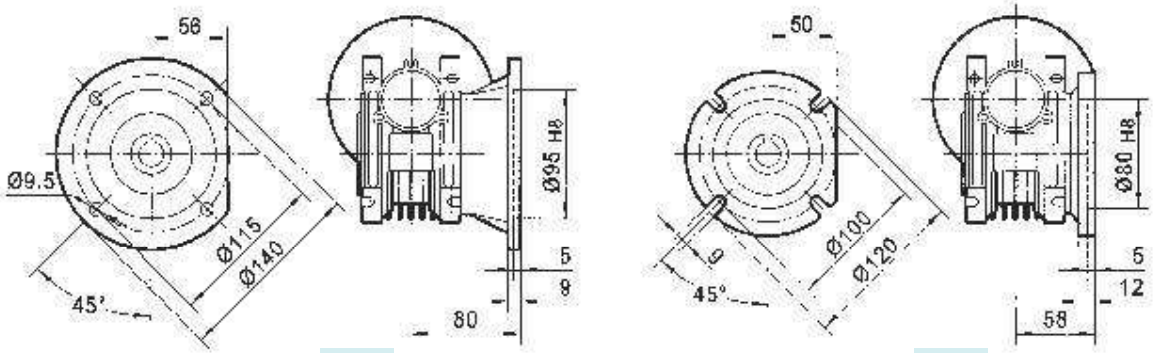
ALM040



E



FA FB



FC FD

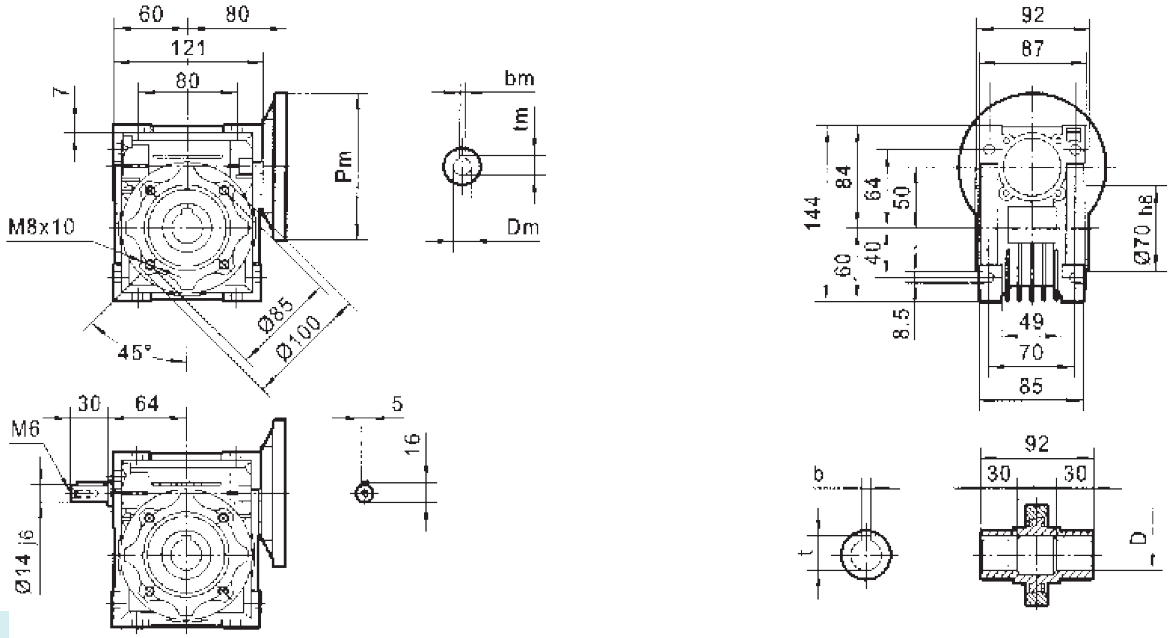
Motor Frame	P_m	D_m E8	b_m	t_m
71B5	160	14	5	16.3
63B5	140	11	4	12.8
56B5	120	9	3	10.4
71B14	105	14	5	16.3
63B14	90	11	4	12.8

D H8	b	t
18	6	20.8
19*	6*	21.8*
*Only on request		

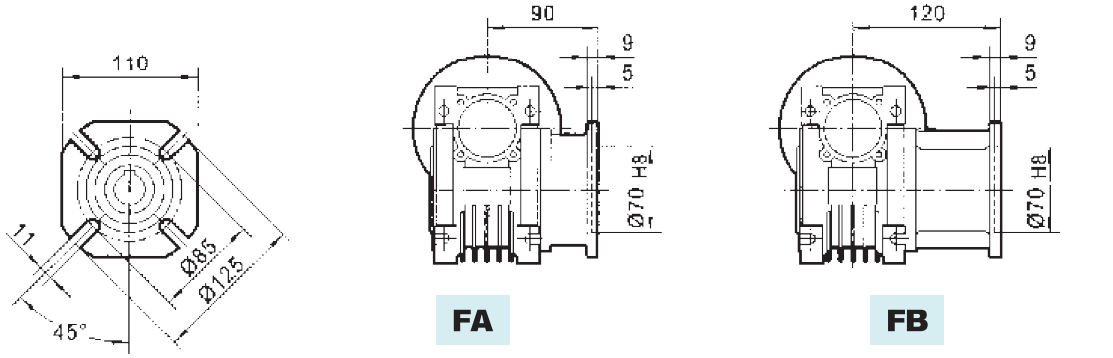
Weight without motor ≈ 2.3 kg

OUTLINE DIMENSION SHEET

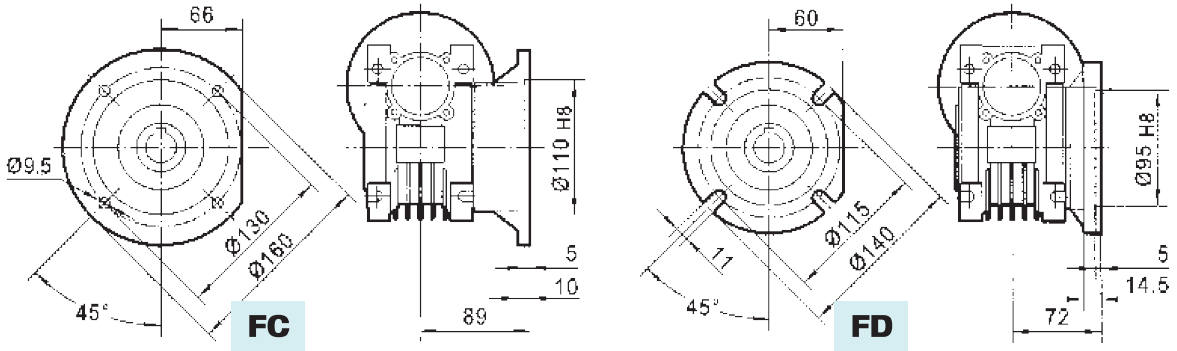
ALM050



E



FA **FB**



FC **FD**

Motor Frame	P_m	D_m E8	b_m	t_m
80B5	200	19	6	21.8
71B5	160	14	5	16.3
63B14	140	11	4	12.8
80B14	120	19	6	21.8
71B14	105	14	5	16.3

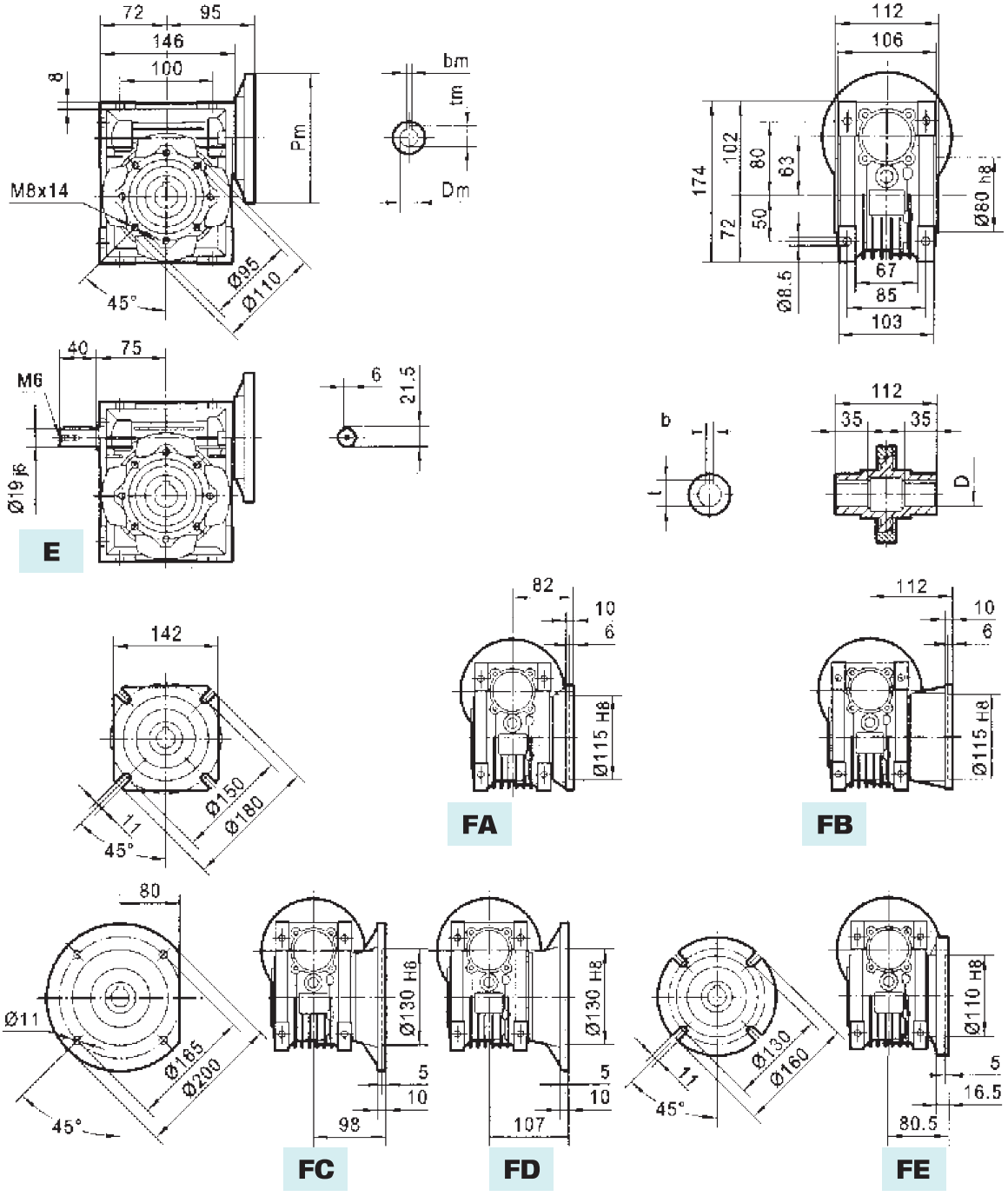
D H8	b	t
25	8	28.3
24*	8*	27.3*

*Only on request

Weight without motor ≈ 3.5 kg

OUTLINE DIMENSION SHEET

ALM063



Motor Frame	P_m	D_m E8	b_m	t_m
90B5	200	24	8	27.3
80B5	200	19	6	21.8
71B5	160	14	5	16.3
90B14	140	24	8	27.3
80B14	120	19	6	21.8
71B14	105	14	5	16.3

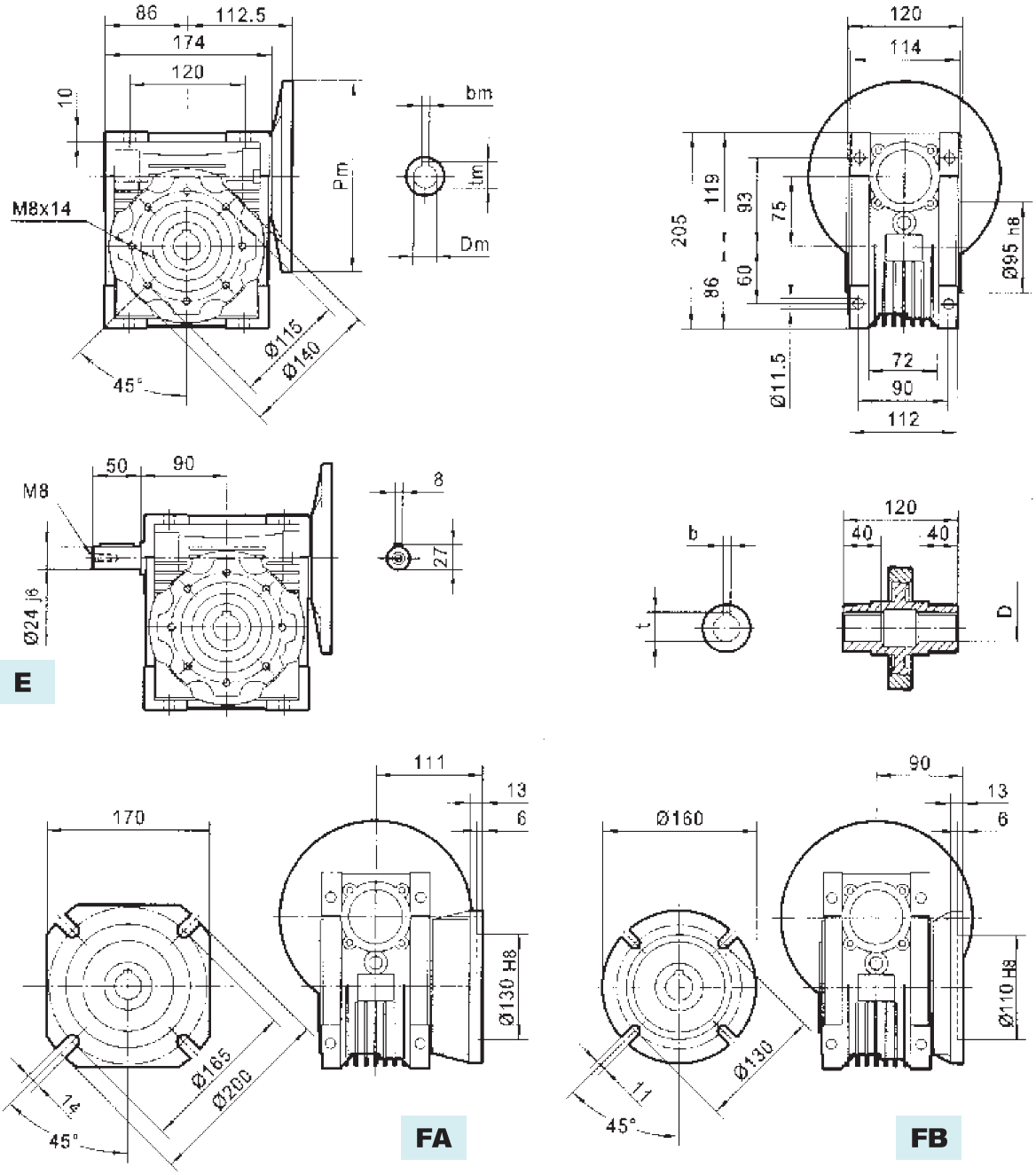
D HB	b	t
25	8	28.3
28*	8*	31.3*

*Only on request

Weight without motor ≈ 6.2 kg

OUTLINE DIMENSION SHEET

ALM075



Motor Frame	P_m	D_m E8	b_m	t_m
100/112B5	250	28	8	31.3
90B5	200	24	8	27.3
80B5	200	19	6	21.8
71B5	160	14	5	16.3
100/112B14	160	28	8	31.3
90B14	140	24	8	27.3
80B14	120	19	6	21.8

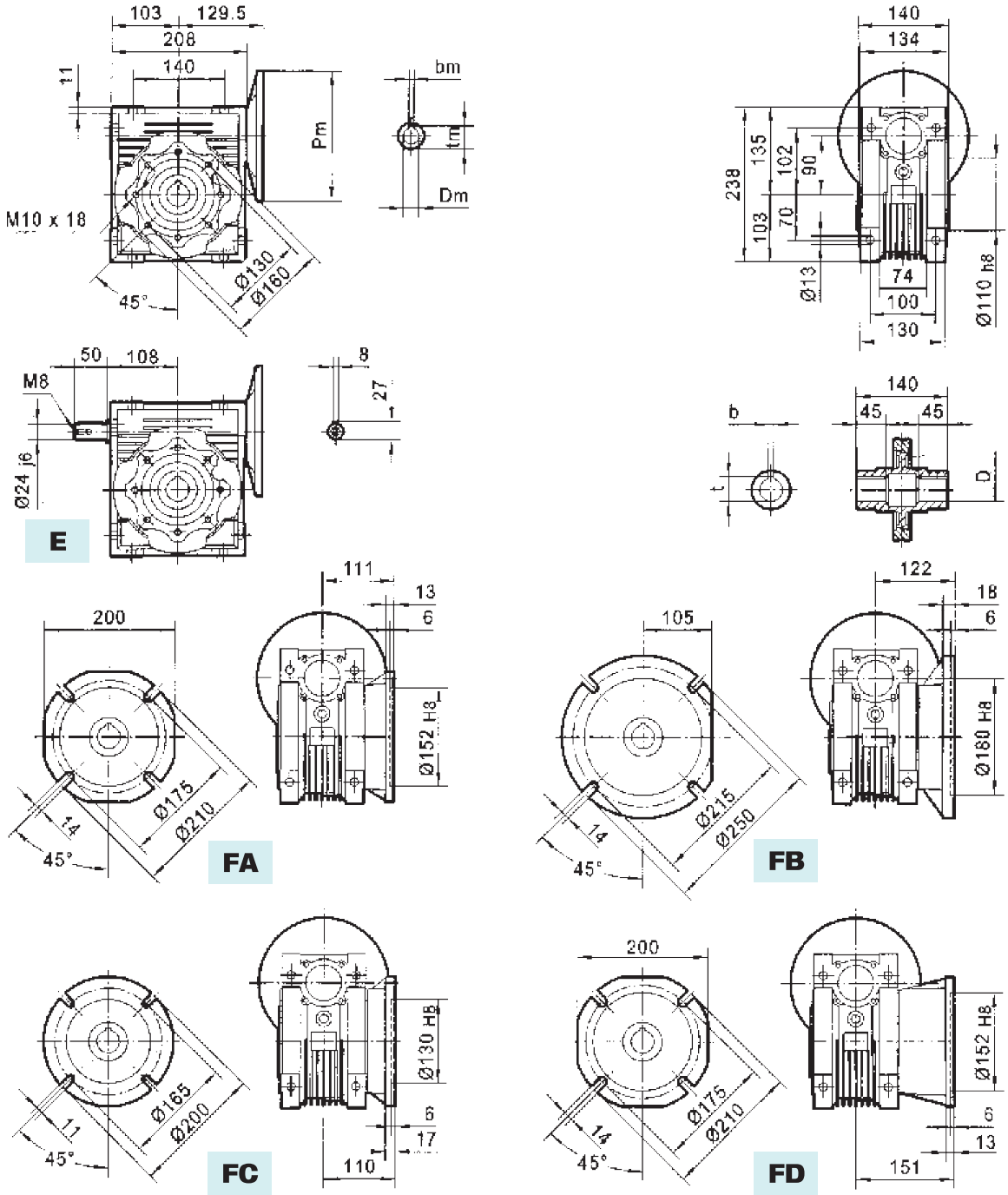
D HB	b	t
28	8	31.3
35*	10*	38.3*

*Only on request

Weight without motor ≈ 9 kg

OUTLINE DIMENSION SHEET

ALM090



Motor Frame	P_m	D_m E8	b_m	t_m
100/112B5	250	28	8	31.3
90B5	200	24	8	27.3
80B5	200	19	6	21.8
100/112B14	160	28	8	31.3
90B14	140	24	8	27.3
80B14	120	19	6	21.8

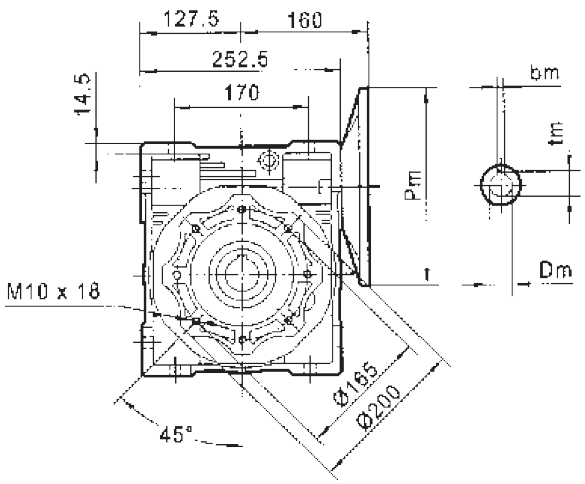
D HB	b	t
35	10	38.3
38*	10*	41.3*

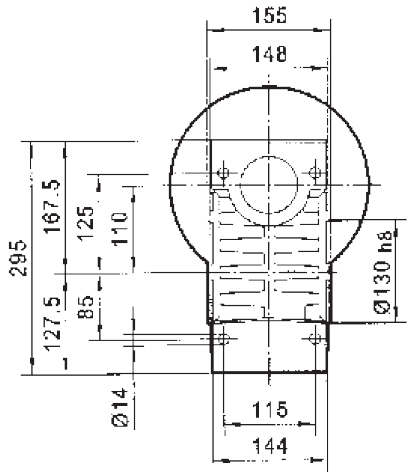
*Only on request

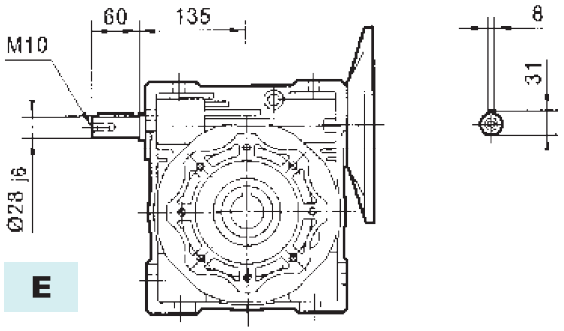
Weight without motor ≈ 13 kg

OUTLINE DIMENSION SHEET

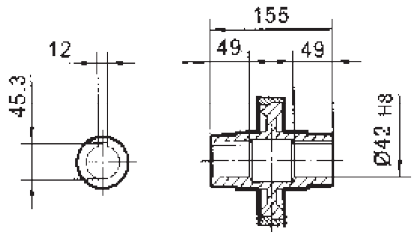
ALM110

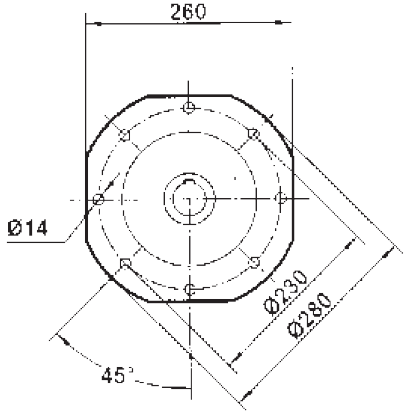


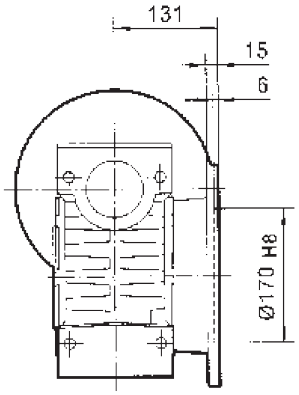




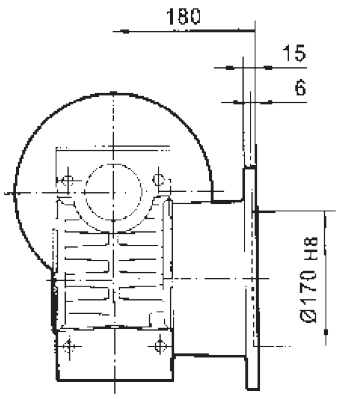
E







FA



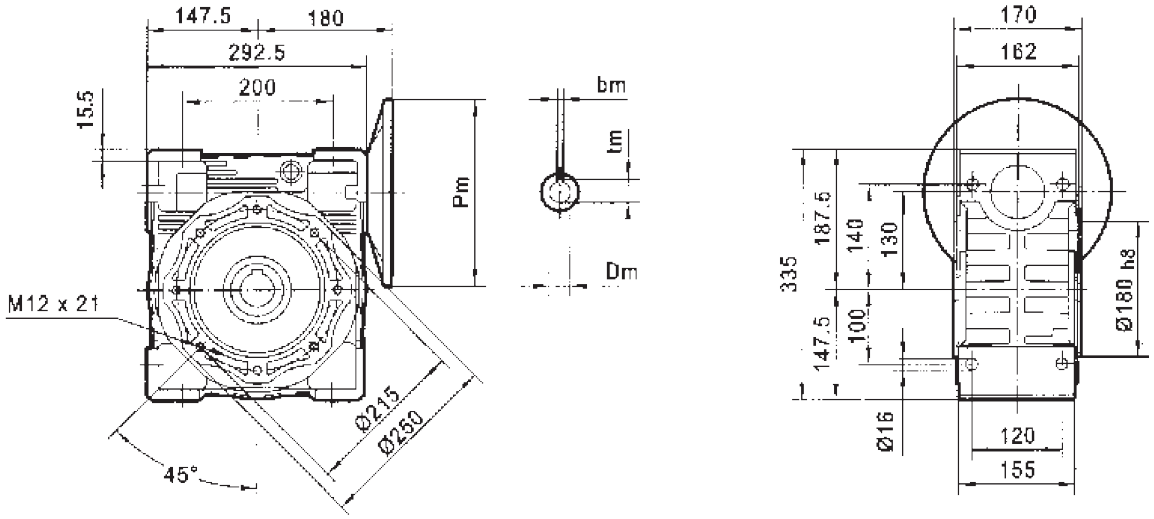
FB

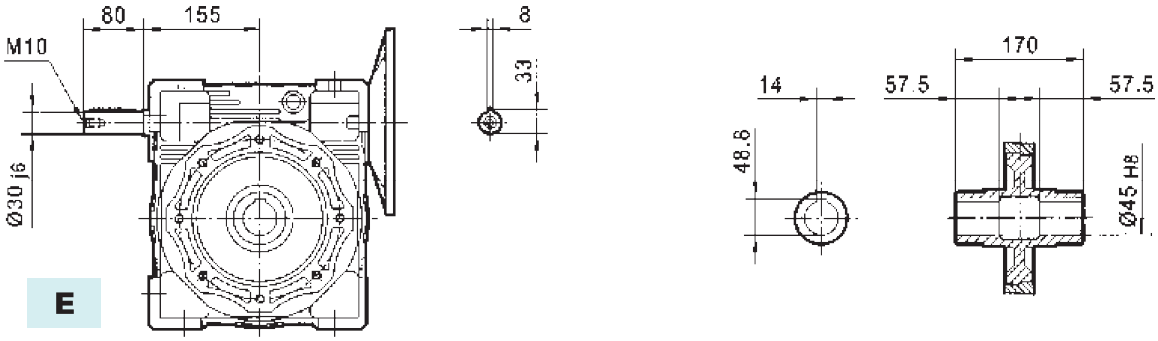
Motor Frame	P_m	D_m E8	b_m	t_m
132B5	300	38	10	41.3
112B5	250	28	8	31.3
100B5	250	28	8	31.3
90B5	200	24	8	27.3
80B5	200	19	6	21.8

Weight without motor ≈ 35 kg

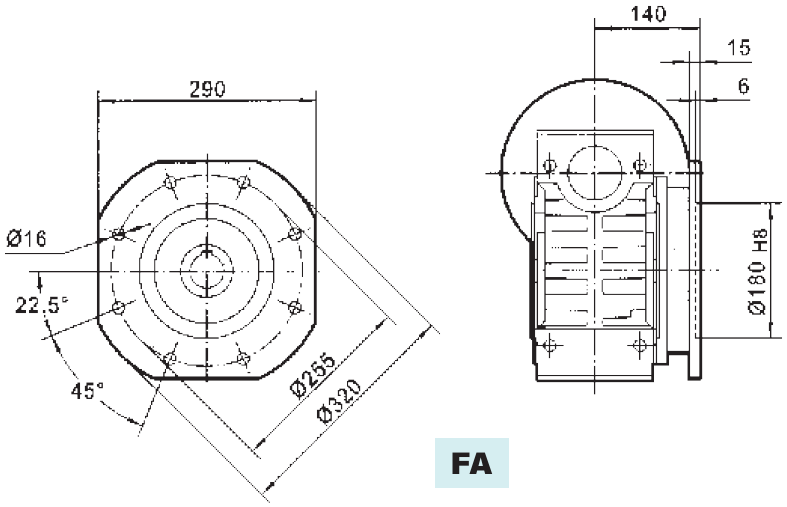
OUTLINE DIMENSION SHEET

ALM130





E

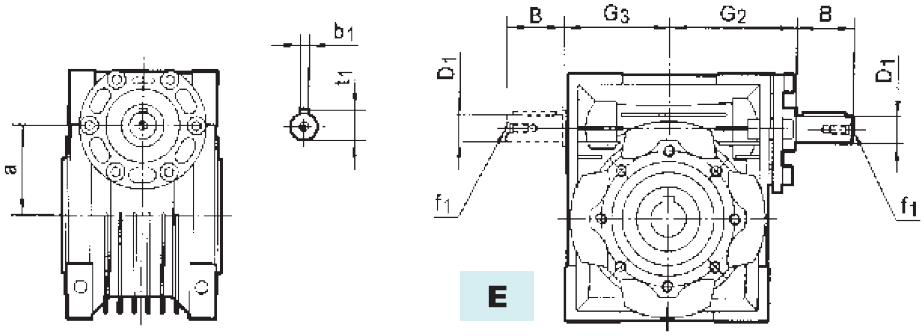


FA

Motor Frame	P_m	D_m E8	b_m	t_m
132B5	300	38	10	41.3
112B5	250	28	8	31.3
100B5	250	28	8	31.3
90B5	200	24	8	27.3

Weight without motor ≈ 48 kg

WORM GEAR UNIT with Solid Input / Hollow Output Shaft

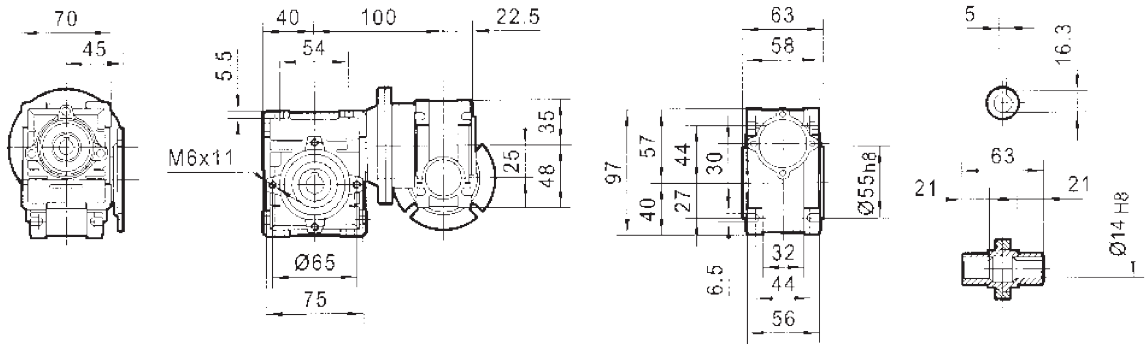


ALM	030	040	050	063	075	090	110	130
B	20	23	30	40	50	50	60	80
$D_1 j^6$	9	11	14	19	24	24	28	30
G_2	51	60	74	90	105	125	142	162
G_3	45	53	64	75	90	108	135	155
a	30	40	50	63	75	90	110	130
b_1	3	4	5	6	8	8	8	8
f_1	-	-	M6	M6	M8	M8	M10	M10
t_1	10.2	12.5	16	21.5	27	27	31	33

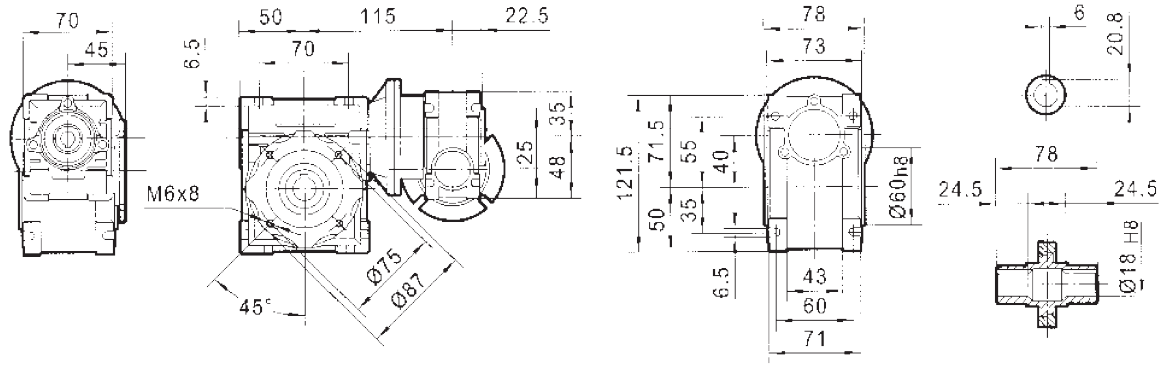
Double Reduction Worm Gear Units

- For the dimensions of the output flanges, please refer to pages 25 - 34
- For the dimensions of the hollow shafts, please refer to pages 25 - 34
- For the dimensions of the double extension worm shafts, please refer to page 35

ALM - 025 / 030

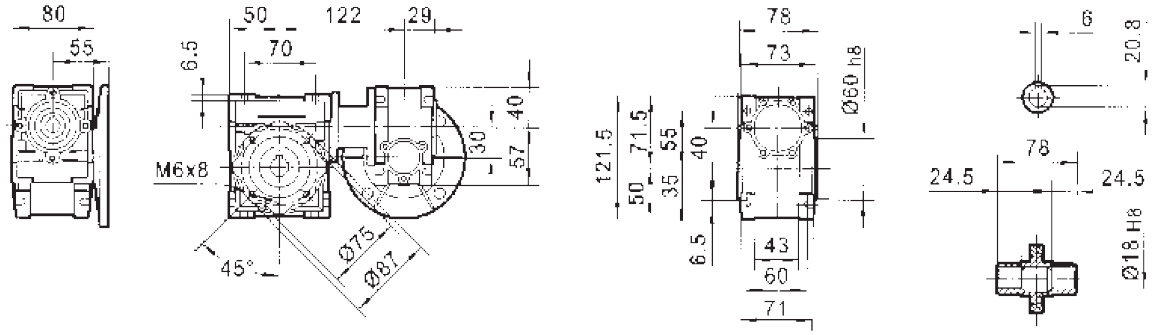


ALM - 025 / 040

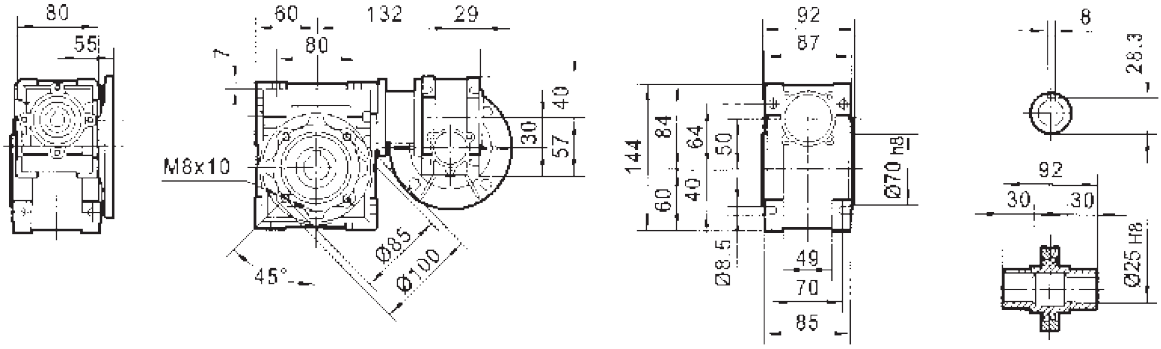


OUTLINE DIMENSION SHEET

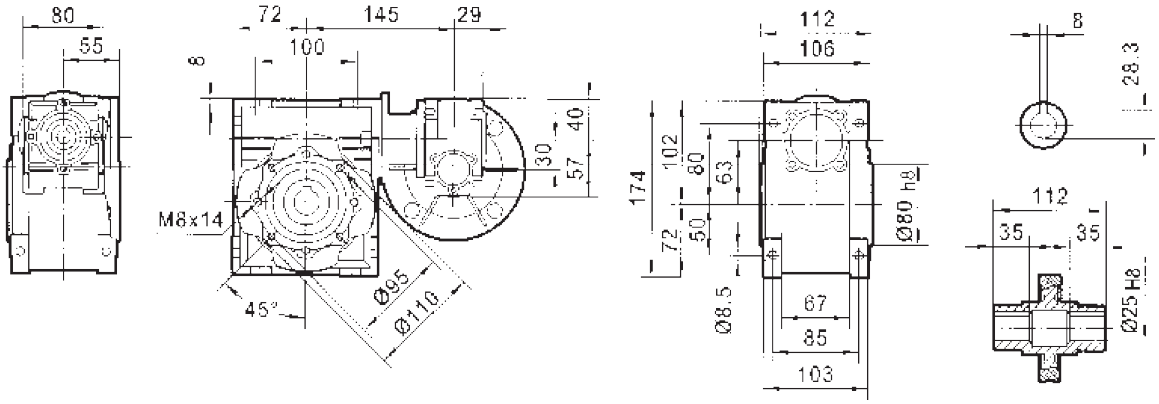
ALM - 030 / 040



ALM - 030 / 050

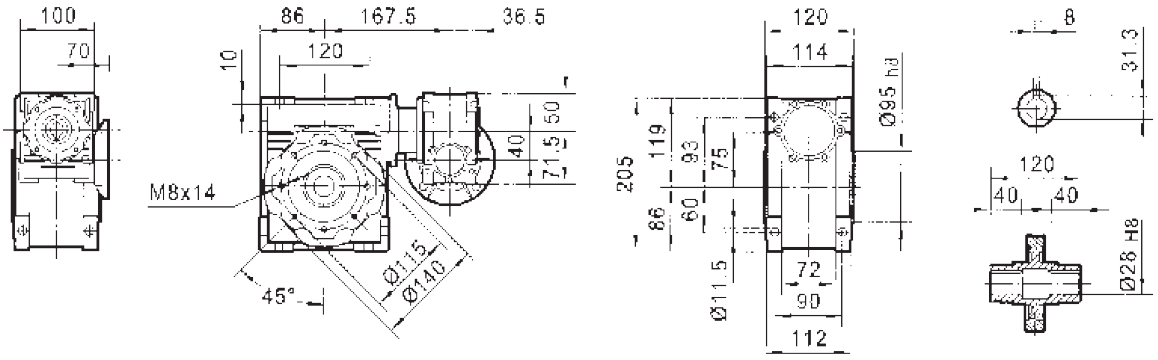


ALM - 030 / 063

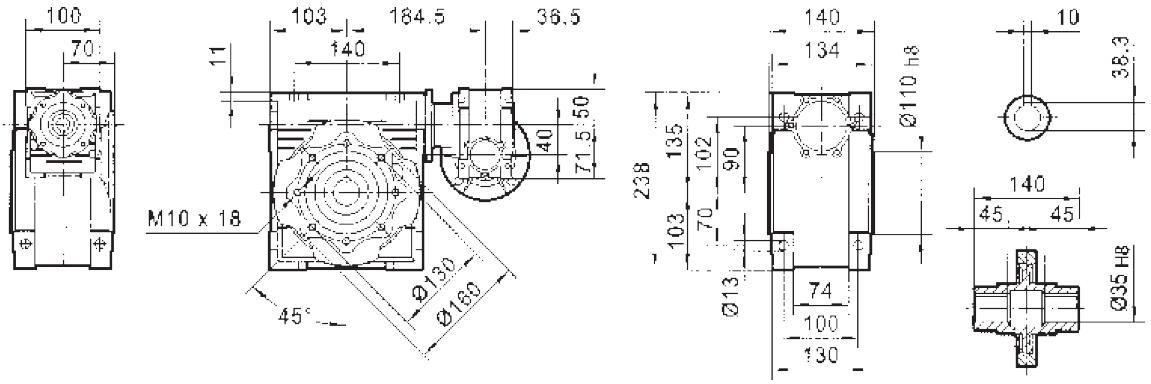


OUTLINE DIMENSION SHEET

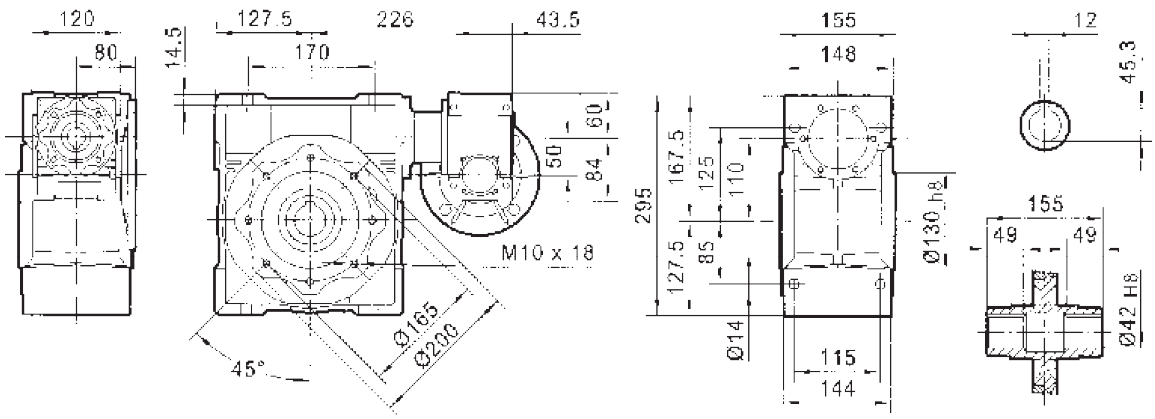
ALM - 040 / 075



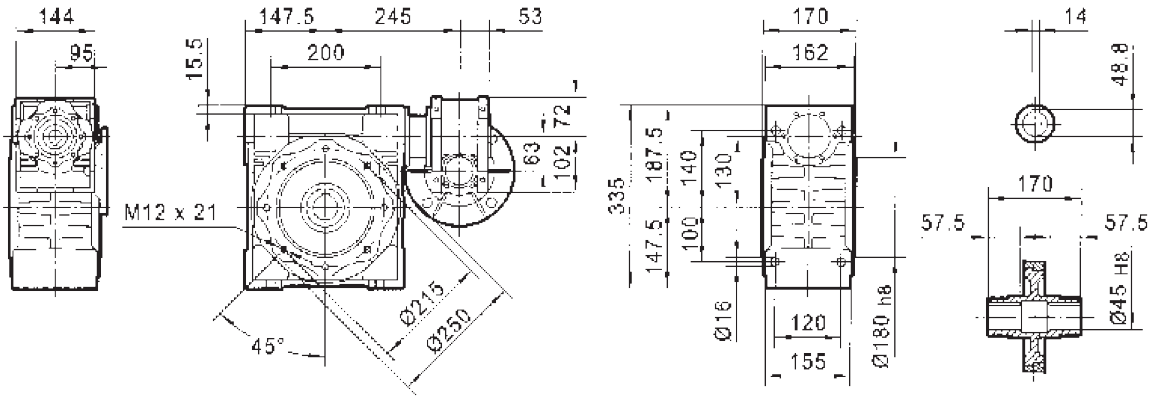
ALM - 040 / 090



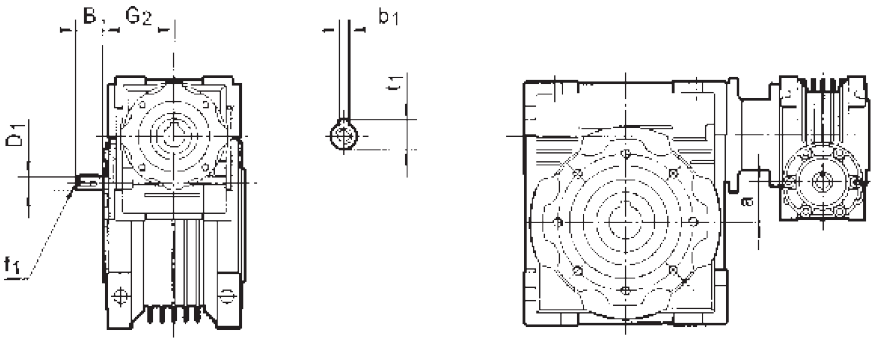
ALM - 050 / 110



ALM - 063 / 130

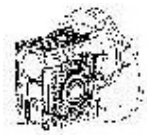


ALW + ALW DOUBLE REDUCTION WORM GEAR UNIT WITH SOLID INPUT SHAFT



ALM	030 / 040	030 / 050	030 / 063	040 / 075	040 / 090	050 / 110	063 / 130
B	20	20	20	23	23	30	40
$D_1 j^6$	9	9	9	11	11	14	19
G_2	51	51	51	60	60	74	90
a	10	20	33	35	50	60	67
b_1	3	3	3	4	4	5	6
f_1	-	-	-	-	-	M6	M6
t_1	10.2	10.2	10.2	12.5	12.5	16	21.5

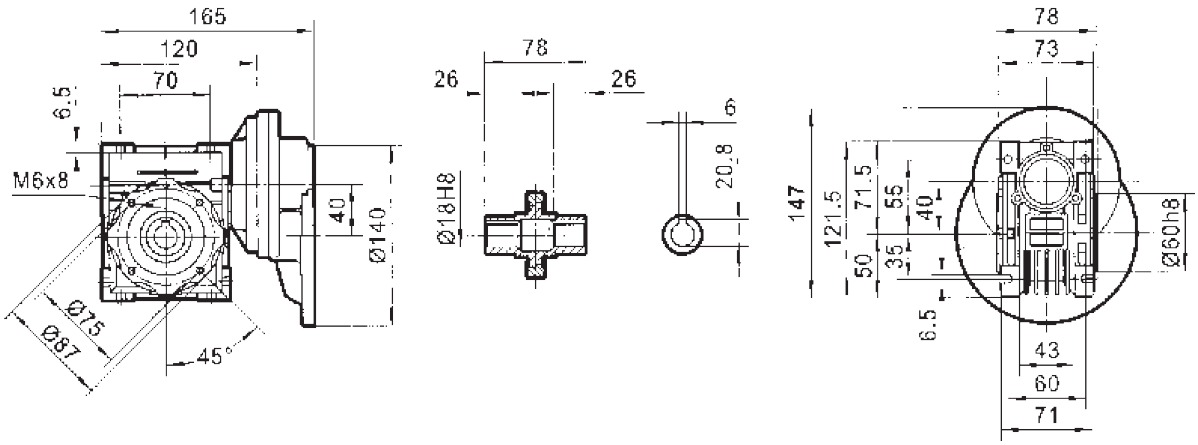
ALM SERIES DIMENSIONS



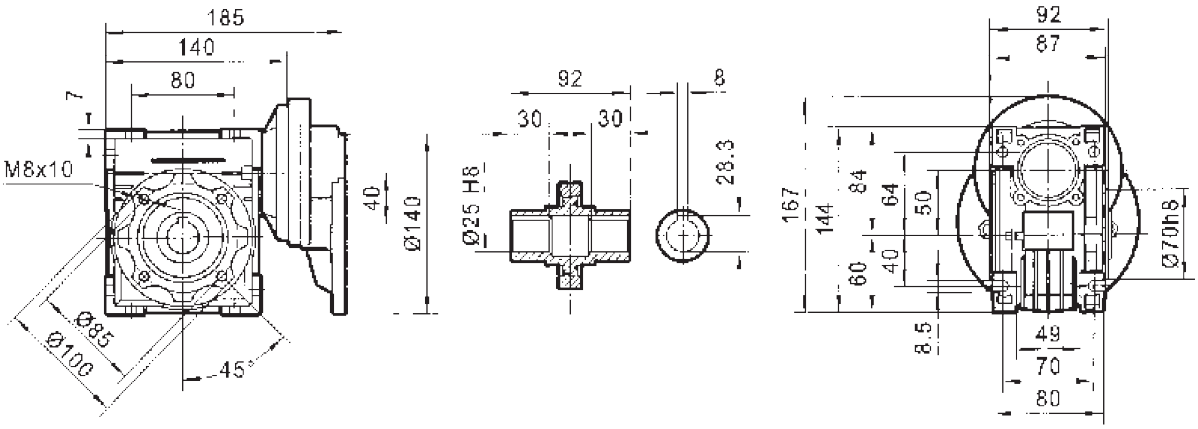
PU+ALM - Warm gears with Pre-stage helical unit (Pu + ALM)

- For the dimensions of the output flanges, please refer to pages 25-34
- For the dimensions of the hollow shafts, please refer to pages 25-34
- For the dimensions of the double extension warm shafts, please refer to page 35

PU063 + ALM040

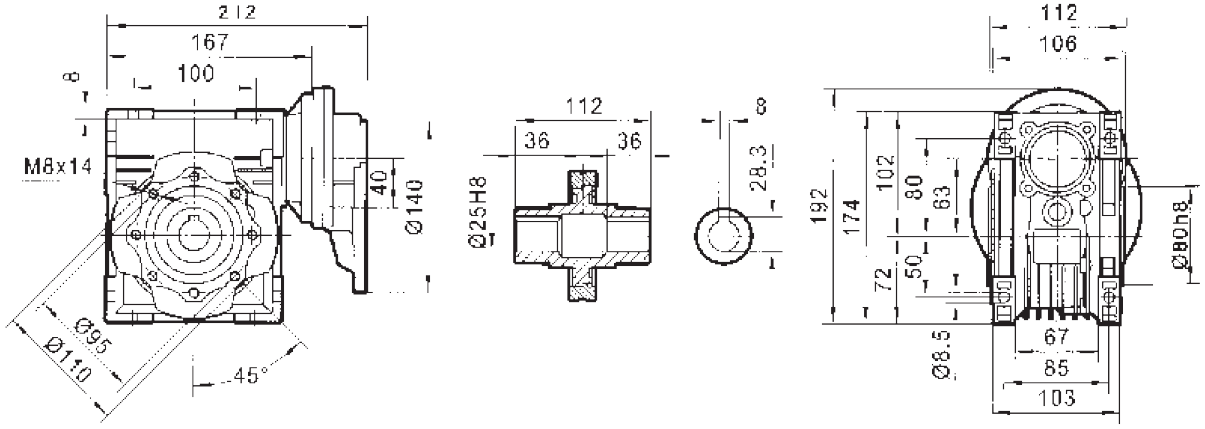


PU063 + ALM050

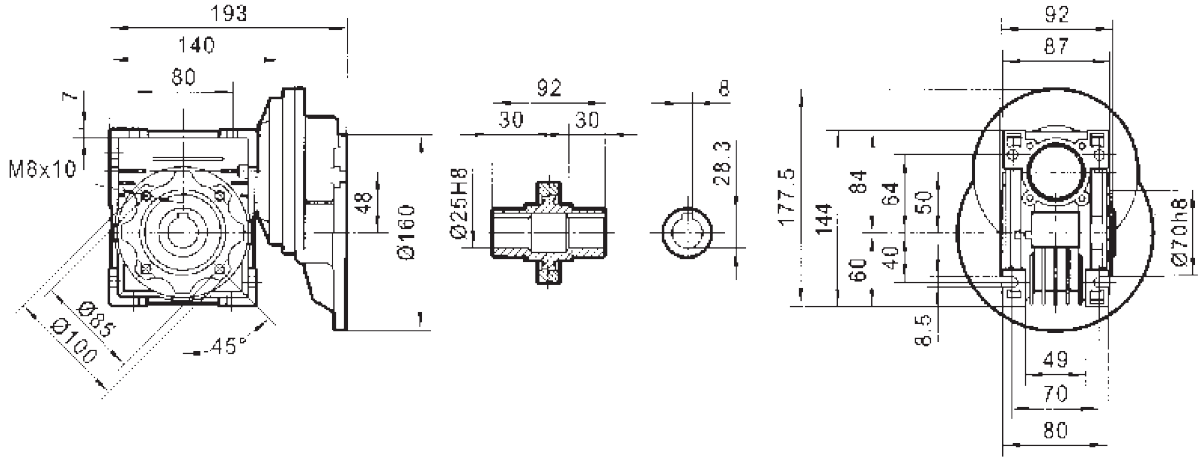


ALM SERIES DIMENSIONS

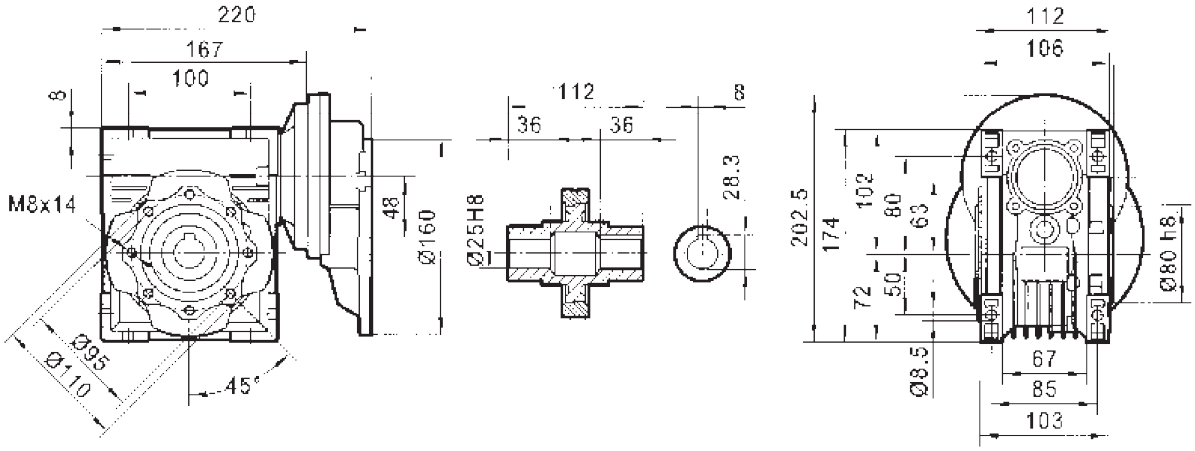
PU063 + ALM063



PU071+ ALM050

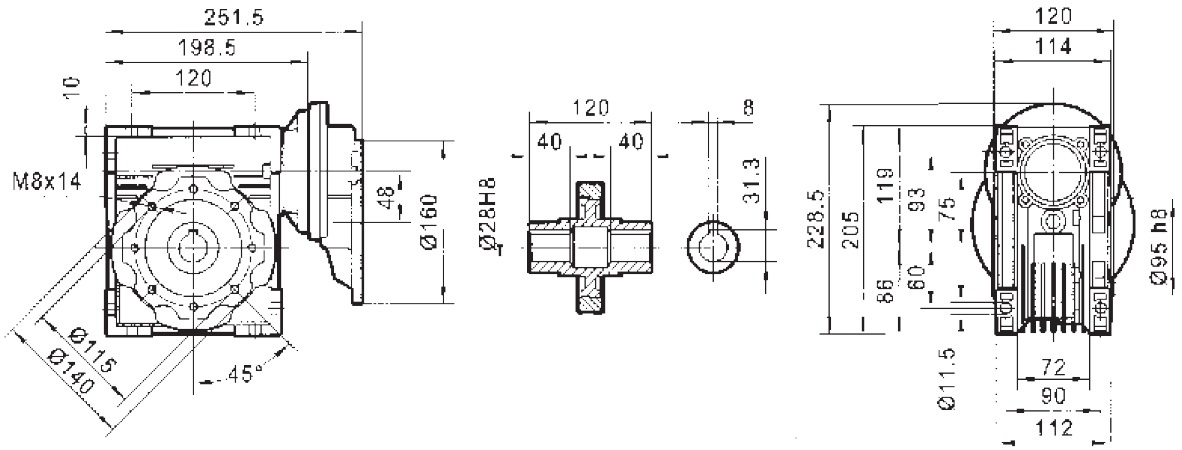


PU071 + ALM063

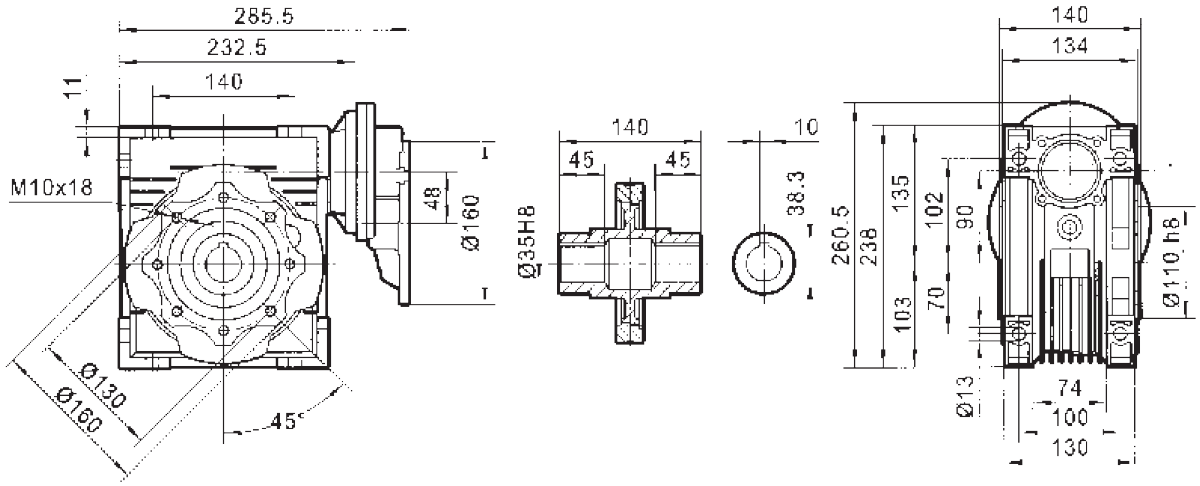


ALM SERIES DIMENSIONS

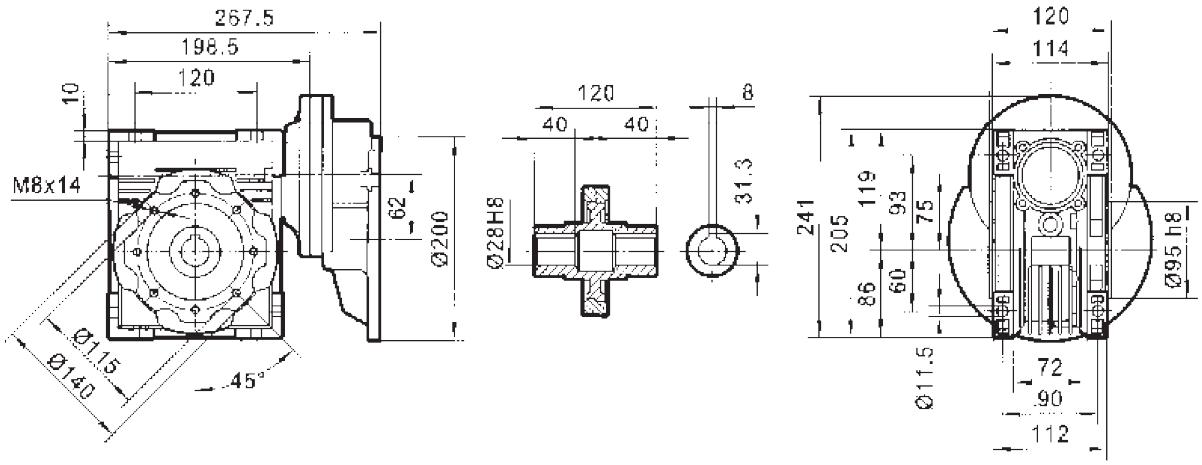
PU071 + ALM075



PU071 + ALM090

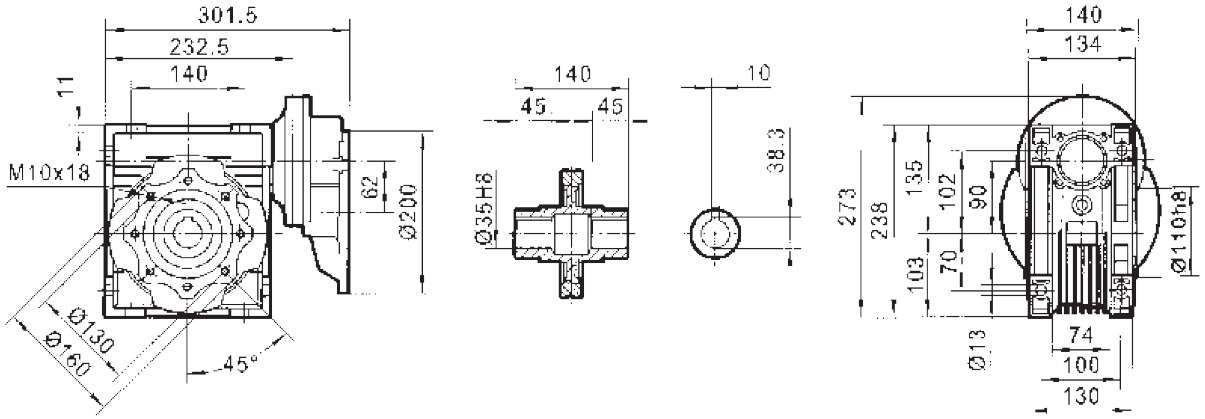


PU080+ ALM 075

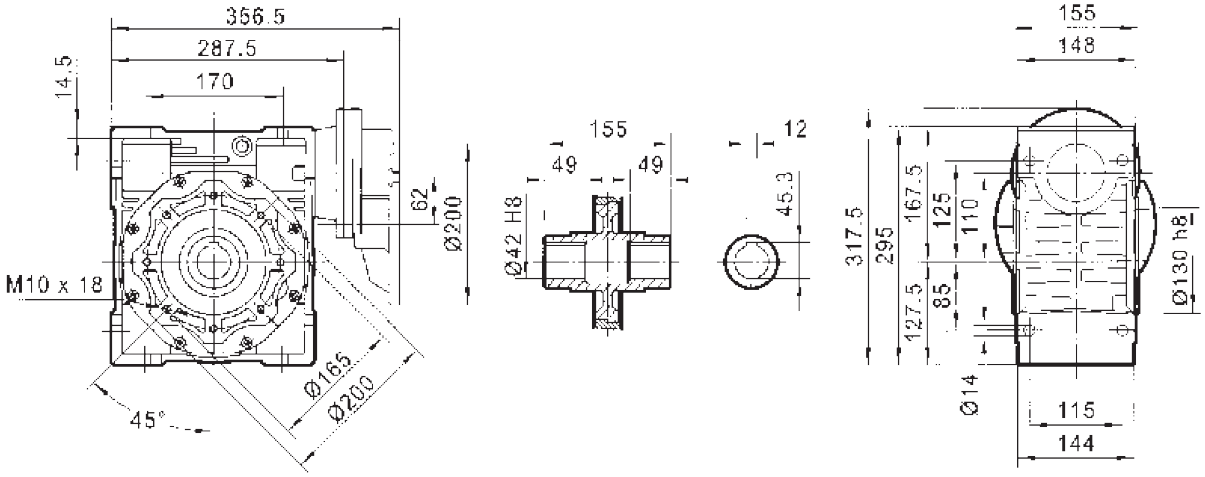


ALM SERIES DIMENSIONS

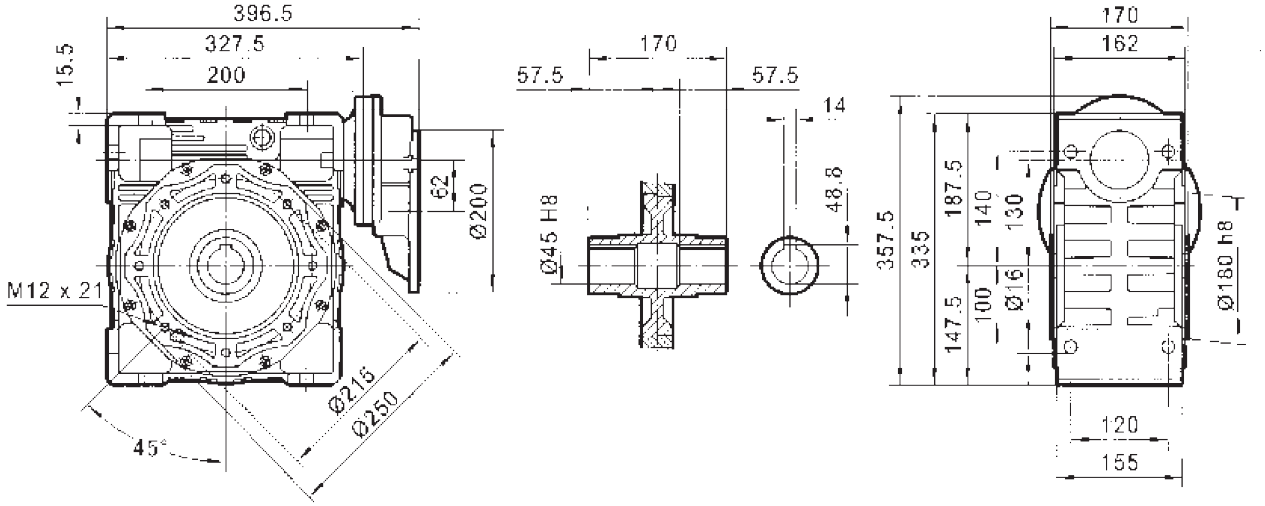
PU080 + ALM090



PU080 + ALM110
PU090+ ALM110



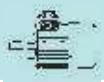
PU080+ ALM130
PU090+ ALM130



ALMV...ALM...(n_1=1400)

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i		
0.18	117 ~ 22.5 88 ~ 17 58.7 ~ 11.3 44 ~ 8.5 35.2 ~ 6.8 29.3 ~ 5.7 22 ~ 4.3 17.6 ~ 3.4	9 ~ 18 12 ~ 23 17 ~ 32 22 ~ 40 27 ~ 47 30 ~ 51 37 ~ 62 43 ~ 60	12 ~ 61.5 16 ~ 82 24 ~ 123 32 ~ 164 40 ~ 205 48 ~ 246 64 ~ 328 80 ~ 410	ALMV0.18 + ALM040	6324
	22 ~ 4.3 17.6 ~ 3.4 14.7 ~ 2.8 11 ~ 2.1 8.8 ~ 1.7	38 ~ 63 44 ~ 73 50 ~ 80 59 ~ 82 66 ~ 79	64 ~ 328 80 ~ 410 96 ~ 492 128 ~ 656 160 ~ 820	ALMV0.18 + ALM050	6324
0.37	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5 20 ~ 4	19 ~ 36 25 ~ 47 36 ~ 65 46 ~ 82 55 ~ 97 61 ~ 107 76 ~ 124 89 ~ 120	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280 70 ~ 350	ALMV0.37 + ALM050	7124
	25 ~ 5 20 ~ 4 16.7 ~ 3.3 12.5 ~ 2.5 10 ~ 2	79 ~ 134 92 ~ 155 104 ~ 173 125 ~ 173 139 ~ 150	56 ~ 280 70 ~ 350 84 ~ 420 112 ~ 560 140 ~ 700	ALMV0.37 + ALM063	7124
0.55	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5 20 ~ 4	26 ~ 49 34 ~ 63 48 ~ 88 62 ~ 112 75 ~ 133 81 ~ 146 105 ~ 179 123 ~ 207	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280 70 ~ 350	ALMV0.55 + ALM063	8014
	20 ~ 4 16.7 ~ 3.3 12.5 ~ 2.5	129 ~ 216 146 ~ 242 176 ~ 250	70 ~ 350 84 ~ 420 112 ~ 560	ALMV0.55 + ALM075	8014
	12.5 ~ 2.5 10 ~ 2	189 ~ 309 218 ~ 350	112 ~ 560 140 ~ 700	ALMV0.55 + ALM090	8014
0.75	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7	39 ~ 73 51 ~ 94 72 ~ 132 92 ~ 168 112 ~ 199 126 ~ 219	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210	ALMV0.75 + ALM063	8024

ALMV...ALM...(n_1=1400)

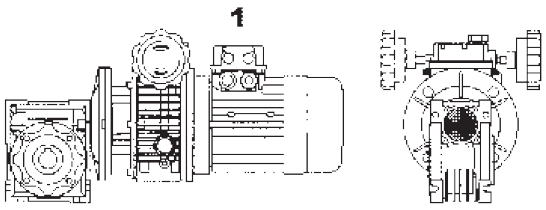
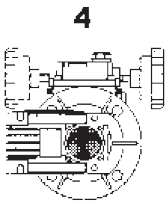
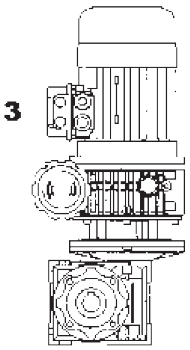
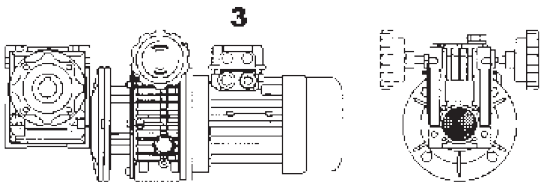
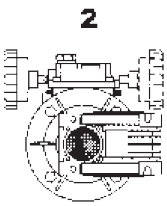
P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i		
0.75	25 ~ 5 20 ~ 4	156 ~ 232 185 ~ 310	56 ~ 280 70 ~ 350	ALMV0.75 + ALM063	8024
	20 ~ 4 16.7 ~ 3.3	192 ~ 320 219 ~ 300	70 ~ 350 84 ~ 420	ALMV0.75 + ALM075	8024
	16.7 ~ 3.3 12.5 ~ 2.5 10 ~ 2	230 ~ 389 265 ~ 428 303 ~ 410	84 ~ 420 112 ~ 560 140 ~ 700	ALMV0.75 + ALM090	8024
	12.5 ~ 2.5 10 ~ 2	302 ~ 503 348 ~ 575	112 ~ 560 140 ~ 700	ALMV0.75+ ALM110	8024
1.1	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5	59 ~ 111 77 ~ 144 110 ~ 203 142 ~ 258 172 ~ 308 195 ~ 340 245 ~ 360	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280	ALMV1.1 + ALM075	90S4
	100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5 20 ~ 4	78 ~ 146 113 ~ 208 146 ~ 266 177 ~ 320 202 ~ 356 256 ~ 442 304 ~ 517	14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280 70 ~ 350	ALMV1.1 + ALM090	90S4
	20 ~ 4 16.7 ~ 3.3 12.5 ~ 2.5 10 ~ 2	320 ~ 550 368 ~ 625 455 ~ 754 522 ~ 710	70 ~ 350 84 ~ 420 112 ~ 560 140 ~ 700	ALMV1.1 + ALM110	90S4
	16.7 ~ 3.3 12.5 ~ 2.5 10 ~ 2	373 ~ 623 460 ~ 749 531 ~ 868	84 ~ 420 112 ~ 560 140 ~ 700	ALMV1.1 + ALM130	90S4
1.5	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5	78 ~ 148 102 ~ 192 147 ~ 270 190 ~ 344 229 ~ 330 260 ~ 390 327 ~ 360	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280	ALMV1.5 + ALM075	90L4
	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5 20 ~ 4	77 ~ 150 104 ~ 195 150 ~ 277 194 ~ 355 236 ~ 427 270 ~ 474 341 ~ 589 406 ~ 560	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280 70 ~ 350	ALMV1.5 + ALM090	90L4

PERFORMANCE PARAMETER

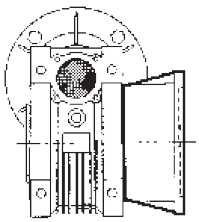
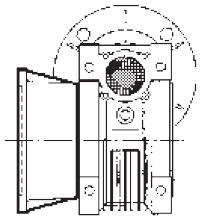
ALMV...ALM...(n_1=1400)

P_{1n} [kW]	n_2 [1/min]	M_{2n} [Nm]	i		
1.5	20 ~ 4 16.7 ~ 3.3	426 ~ 733 490 ~ 833	70 ~ 350 84 ~ 420	ALMV1.5-ALM110	90L4
	16.7 ~ 3.3 12.5 ~ 2.5 10 ~ 2	498 ~ 831 614 ~ 999 696 ~ 1100	84 ~ 420 112 ~ 560 140 ~ 700	ALMV1.5 - ALM130	90L4
2.2	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5	120 ~ 226 157 ~ 294 228 ~ 418 298 ~ 549 364 ~ 664 413 ~ 717 533 ~ 931	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280	ALMV2.2 - ALM110	100LA4
	25 ~ 5 20 ~ 4 16.7 ~ 3.3 12.5 ~ 2.5 10 ~ 2	542 ~ 932 648 ~ 1097 746 ~ 1246 921 ~ 1499 1040 ~ 1690	56 ~ 280 70 ~ 350 84 ~ 420 112 ~ 560 140 ~ 700	ALMV2.2-ALM130	100LA4
3.0	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5	160 ~ 302 210 ~ 392 304 ~ 558 398 ~ 732 485 ~ 885 547 ~ 956 711 ~ 1030	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280	ALMV3-ALM110	100LB4
	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5 20 ~ 4	160 ~ 301 211 ~ 395 307 ~ 563 402 ~ 733 490 ~ 885 562 ~ 973 720 ~ 1242 864 ~ 1463	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175 42 ~ 210 56 ~ 280 70 ~ 350	ALMV3-ALM130	100LB4
4.0	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8	213 ~ 402 279 ~ 523 405 ~ 744 530 ~ 975 647 ~ 1020	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 ~ 140 35 ~ 175	ALMV4-ALM110	112M4
	133 ~ 26.7 100 ~ 20 66.7 ~ 13.3 50 ~ 10 40 ~ 8 33.3 ~ 6.7 25 ~ 5	214 ~ 401 281 ~ 527 410 ~ 751 536 978 653 ~ 1180 749 ~ 1298 960 ~ 1650	10.5 ~ 52.5 14 ~ 70 21 ~ 105 28 140 35 ~ 175 42 ~ 210 56 ~ 280	ALMV4-ALM130	112M4

VARIATOR ... - ALM...

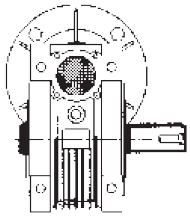
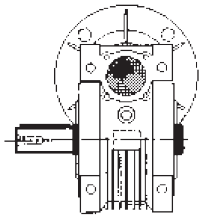
ALM...U - B3	B6	V5
		
B8	**B7**	
		

POSITION DIAGRAM FOR OUTPUT FLANGE

FA 1, FB 1, FC 1, FD 1, FE 1	FA 2, FB 2, FC 2, FD 2, FE 2
	

Unless specified otherwise, the reduction unit is supplied with the flange in pos. F..1 referred to position B3.

POSITION DIAGRAM FOR SINGLE OUTPUT SHAFT

AS 1	AS 2
	

INSTALLATION OF MECHANICAL VARIATOR

The performance given in the catalogue correspond to mounting position. B3 or similar, when the first stage is not entirely immersed in oil. For other mounting positions and/0r particular input speeds, refer to the tables that highlight different critical situations for each size of reduction unit. It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service :

1. As a speed increasing
2. Applications with especially high inertia
3. Use as a lifting winch.
4. Use in services that could be hazardous for people if the reduction unit fails.
5. Applications with high dynamic strain on the case of the reduction unit.
6. In places with T under - 5°C or over 40°C
7. Use in chemically aggressive environments.
8. Use in a salty environment.
9. Use in radioactive environments.
10. Use in environments pressures other than atmospheric pressure.
11. Mounting positions not envisaged in the catalogue.

Avoid applications where even partial immersion of the reduction unit is required.
The maximum torque that the gear reducer can support must not exceed two times the nominal
torque (fs=1) started in the performance tables. Intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

ALM	025	030	040	050	063	075	090	110	130
V5 : 1500 < n_1 < 3000	...	...	...	...	...	B	B	B	B
n_1 > 3000	B	B	B	B	B	A	A	A	A
V6	B	B	B	B	B	B	B	B	B

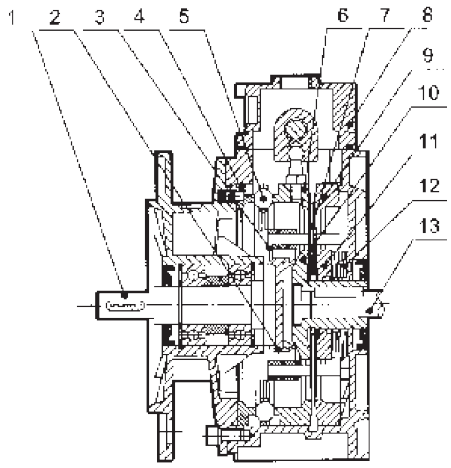
A. Application not recommended
B. Check the application and/or call our technical service.

STEPLESS SPEED VARIATOR

The design of ALMV series sleepless speed variator compromises the advanced technology both at home and abroad. The products include the following main characteristics :

1. High speed-regulating precision : up to 0.5-1 rotation.
2. Large speed - changing range : The speed ratio ranges form 1:1.4 to 1:7 freely.
3. High in strength and long in service life.
4. Convenient to regulate the speed.
5. Continous in running, front-to back in running direction, smooth in driving, stable in performance and low in noise.
6. Full in sealing and suitable for any environment.
7. Compact in structure and small in volume.
8. Made of high-quality aluminium alloy diecast into forming, good-looking in appearance, light in weight and it never gets rusty.
9. Good in adaptation. ALMV series stepless speed variators can be combined with all kinds of speed reducers, as to achieve low stepless speed-changing.
   ALMV series stepless speed variators are widely used for foodstuffs, ceramics, packing, chemicals, pharmacy, plastics, paper-making, machine-tools, communications and all kinds of automatic lines. pipelines and assembly lines which need speed-regulation, It is a good companion for your production.

STRUCTURE



1. Output shaft
2. Planet carrier
3. Friction bearing-planet disk
4. Cam ring
5. Ball ring
6. Adjustable annulus ring
7. Planet disk
8. Control cover
9. Fixed annulus ring
10. Fixed sun race
11. Adustable sun race
12. Belleville spring
13. Motor shaft

PRODUCT PICTURE

ALM...B 3

ALM...B 5

PERFORMANCE TABLE FOR **ALM** SERIES SPEED VARIATOR

n1 = 1400 r/min

B	Model	i	n2[r/min]	M2[NM]
0.18KW	**ALMV0.18**	1.6~8.2	880~170	1.5~3
0.37KW	**ALMV0.37**	1.4~7	1000~200	3~6
0.55KW	**ALMV0.55**	1.4~7	1000~200	4~8
0.75KW	**ALMV0.75**	1.4~7	1000~200	6~12
1.1KW	**ALMV1.1**	1.4~7	1000~200	9~18
1.5KW	**ALMV1.5**	1.4~7	1000~200	12~24
2.2KW	**ALMV2.2**	1.4~7	1000~200	18~36
3.0KW	**ALMV3.0**	1.4~7	1000~200	24~48
4.0KW	**ALMV4.0**	1.4~7	1000~200	32~64
5.5KW	**ALMV5.5**	1.4~7	1000~200	45~90
7.5KW	**ALMV7.5**	1.4~7	1000~200	59~118

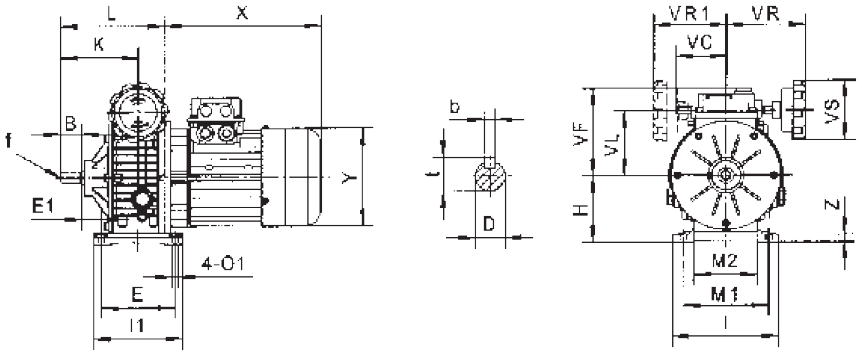
PERFORMANCE TABLE FOR STEPLESS SPEED VARIATOR & GEAR SPEED REDUCER

n1 = 1400 r/min

Model	i	n2[r/min]	m2[Nm]
ALMV0.18-CB3	5	176~34	7~`15
ALMV0.37-CB3	5	200~40	15~30
ALMV0.75-CB3	5	200~40	30~60

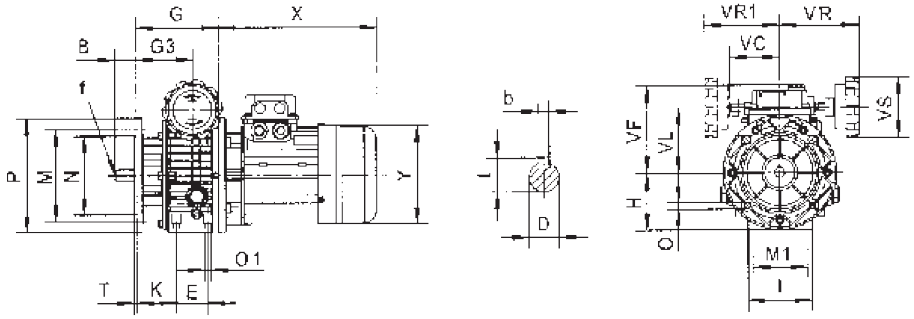
OUTLINE & INSTALLATION SIZES FOR STEPLESS SPEED VARIATOR

B3



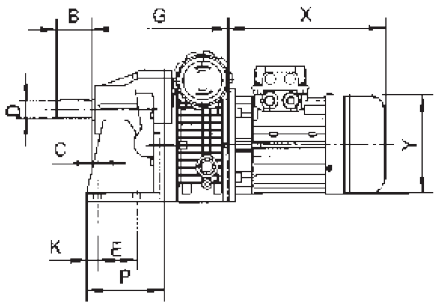
	B	D_{j6}	E	E1	H	I	I1	K	L	M1	M2	O1	VC	VF	VL	VR	VR1	VS	b	f	t	X	Y	Z
ALMV0.18B3	23	11	105	18	80	145	120	88	136	110	71	9	71	11	78	110	110	85	4	-	12.5	200	120	10
ALMV0.37B3	30	14	104	20	93	149	125	104	140	120	96	9	71	123	90	110	110	85	5	M6	16	227	141	10
ALMV0.75B3	40	19	125	26	113	190	150	126	179	160	135	11	79	140	107	120	120	110	6	M6	21.5	268	160	15
ALMV1.1B3	40	24	105	35	100	207	130	136	187	160	115	13	-	124	102	120	-	110	8	M8	27	265	195	15
ALMV1.5B3	50	24	115	54	123	241	150	165	238	190	143	13	-	144	122	150	-	110	8	M8	27	290	195	18
ALMV2.2B3	60	30	230	25	150	300	270	191	268	245	190	14	-	188	150	150	-	110	8	M8	33	320	215	25
ALMV3.0B3	60	30	230	25	150	300	270	191	268	245	190	14	-	188	150	150	-	110	8	M8	33	320	215	25
ALMV4.0B3	60	30	230	25	150	300	270	191	268	245	190	14	-	188	150	150	-	110	8	M8	33	340	240	25
ALMV5.5B3	70	35	250	33	200	365	290	201	319	315	245	18	-	-	192	192	-	110	10	M10	38	395	275	30
ALMV7.5B3	70	35	250	33	200	365	290	201	319	315	245	18	-	-	192	192	-	110	10	M10	38	435	275	30

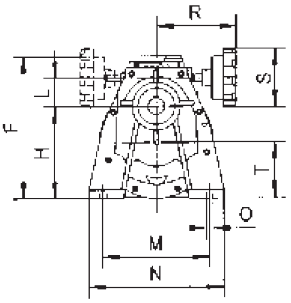
B5



	B	D_{j6}	E	G	G3	H	I	M	M1	N	D	D1	P	T	K	VC	VF	VL	VR	VR 1	VS	b	f	t	X	Y
ALMV0.18B3	23	11	50	113	64.5	70	72	115	60	95	9	M6	140	3.5	46	71	111	78	110	110	85	4	-	13	200	120
ALMV0.37B3	30	14	40	110	74	80	90	130	77	110	9	M8	160	3.5	53	71	123	90	100	110	85	5	M6	16	227	141
ALMV0.75B3	40	19	58	139	85.5	100	98	165	84	130	11	M8	200	3.5	60	79	140	107	120	120	110	6	M6	22	268	160
ALMV1.1B3	40	24	-	147	95	98	207	165	-	130	11	-	200	3.5	-	-	124	102	150	-	110	8	M6	27	265	195
ALMV1.5B3	50	24	-	188	115	126	241	165	-	130	11	-	200	3.5	-	-	144	122	150	-	110	8	M8	27	290	195
ALMV2.2B3	60	30	-	208	131	150	270	165	-	230	15	-	300	4	-	-	188	150	150	-	100	8	M8	33	320	215
ALMV3.0B3	60	30	-	208	131	150	270	265	-	230	15	-	300	4	-	-	188	150	160	-	110	8	M8	33	320	215
ALMV4.0B3	60	30	-	208	131	150	270	265	-	230	15	-	300	4	-	-	188	150	160	-	110	8	M8	33	320	240
ALMV5.5B3	70	35	-	244	131	200	-	300	-	250	19	-	350	5	-	-	-	192	194	-	110	10	M10	38	395	275
ALMV7.5B3	70	35	-	244	131	200	-	300	-	250	19	-	350	5	-	-	-	192	194	-	100	10	M10	38	435	275

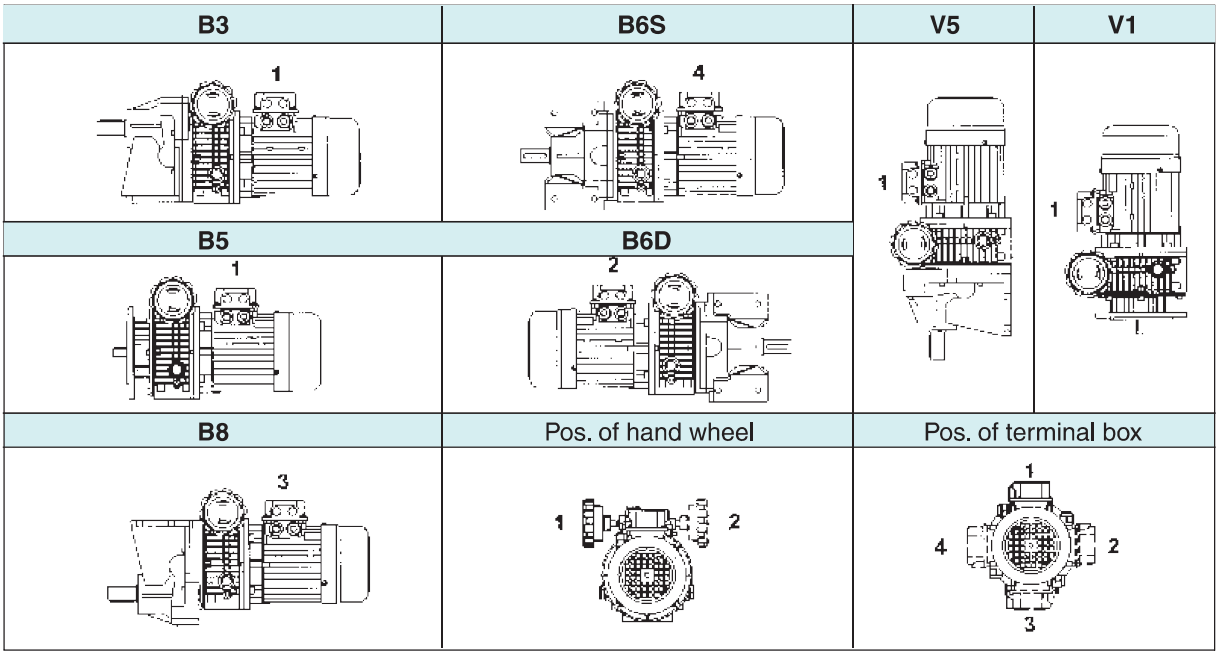
OUTLINE & INSTALLATION SIZES FOR STEPLESS SPEED VARIATOR





	B	C	D	E	F	G	Y	L	M	N	O	P	R	S	T	X	K
ALMV0.18B3	40	18	19	45	162	189	120	33	115	130	9	80	110	85	66	200	16
ALMV0.37B3	50	6	24	70	187	190	141	39	150	190	9	110	100	85	79	227	15
ALMV0.75B3	60	7	28	70	228	225	160	46	165	210	12	130	130	110	99	268	25

INSTALLATION POSITIONS DIAGRAM



- For special requirements, orders must specify the position of the terminal box with reference to the diagram. Unless otherwise specified the terminal box, the position of that will be mounted as shown in the diagram for the mounting position
- Unless specified otherwise, the standard positions are B3 or B5
- For positions not envisaged, it is necessary to call our Technical Service

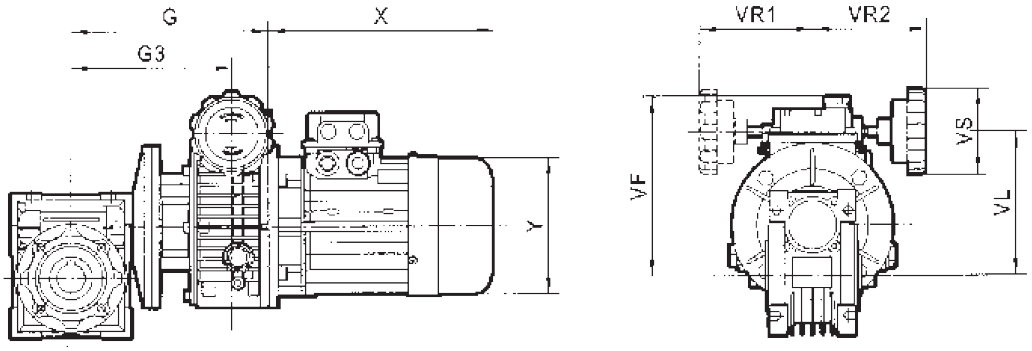
1. The shapes of shaft extension are all cylindrical. It is subject to GB 1569-1990 Cylindrical shaft extension. The key joint refers to GB1095-2003 Ordinary flat key.
2. The shaft lines should be kept concentric when the coupling is connected with a motor. The installation error should be no more than the tolerance value of the coupling.
3. When the output shaft is installed with the coupling or belt wheel, they should be pressed into the srew hole on shaft end. Or assembled by heating. No hammering on it!
4. The mechanical stepless speed variator is not used in such an occasion where overload or running-blockage happen to occur.
5. Speed-regulation should be effected in running. Do not turn the hand wheel of speed-regulation when the machine stops.
6. The limit screws of speed-regulation on two ends under the operating box are well adjusted, Please don't touch them!
7. This set is not suited to work in the environment over 40°C, especially no more than 45°C when the temperature rises. In regard to its temperature rise, please read the explanation as follows. If a 4-pole motor is used for the speed variator, the temperature under running-in (empty running) is 40-50°C higher than that of normal working environment. After running-in up to 60-80 hours, the temperature rise will go down gradually. From that time on. it is 20°C higher than of environment; and the temperature will keep on rising steadily. The high temperature rise in running will affect normal permissive working condition, but it won't bring any bad effects to the service life of parts.
8. The liquid lubricating oil is used for the speed variator. Its trade mark is Ub-3x. Please check up the oil level before use.
9. The machine is filled with lubricating oil before leaving factory. When it starts to work up to 2000 hours for the first time, its lubricating oil should be replaced, changing the lubricating oil every 5000 hours later.
10. The lubricating oil level inside the speed variator should be kept at the height of two-third in the oil scale. Users should usually check the height of oil level. It is strictly prohibited to operate it when short of lubricating oil. The air screw nut on the operating box is screwed up for preventing from oil leakage in moving before leaving factory. It should be loosened when it starts to run. It is strictly forbidden to use it before loosening!

LUBRICANTS OIL CHOSEN TABLE

	C-50 0 +50 +100	ISO	SHELL	AGIP	ESSO	MOBIL	CASTROL	BP		
ALM025 - 090 PU063 - 090	25 +50	VG320	Tivela OIL S320	Telium VSF 320	S220	Glygoyle 30	Alphasyn Pg320	Energol SG-XP320		Synthetic oil
ALM 110 - 130	5 +40	VG460	Omala OIL 460	Blasia 460	Spartan EP 460	Mobilgear 634	Alpha MAX 460	Energol GR-XP460	CKE460	Mineral oil TRAXOL
	-15 +25	VG220	Omala OIL 220	Blasia 220	Spartan EP 220	Mobilgear 630	Alpha MAX 220	Energol GR-XP220		
ALMV	25 +40	VG32	A.T.F. DXRON	A.T.F. DXRON	A.T.F.DXRON	A.T.F. 220	TQ. DXRON II	Autran DX	Ub-3x	Mineral oil TRAXOL

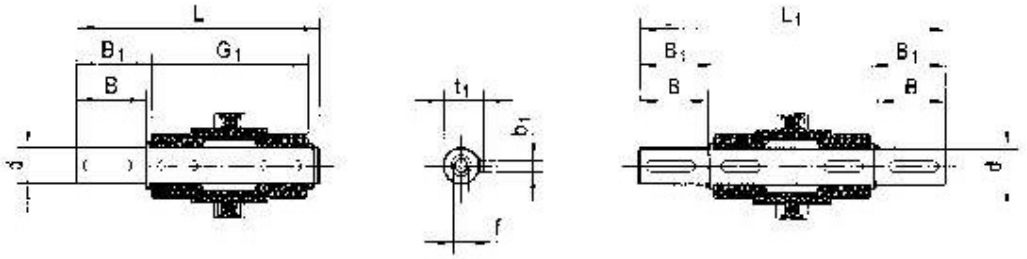
OUTLINE DIMENSION SHEET

VARIATOR - ALM - COMBINATION OF SPEED VARIATOR AND WORM GEAR UNITS



Model	G	G3	VF	VL	VS	VR	VR1	base No. 4p n1+1400r/min	X	Y
ALMV0.18 ALM040	183	135	151	118	85	110	110	63	200	120
ALMV0.18 ALM050	193	145	161	128	85	110	110			
ALMV0.37 ALM050	190	154	173	140	85	110	110	71	227	141
ALMV0.37 ALM063	205	169	186	153	85	110	110			
ALMV0.55 ALM063	234	181	203	170	110	120	120	80	268	160
ALMV0.75-ALM063	234	181	203	170	110	120	120			
ALMV0.37-ALM075	223	187	198	165	85	110	110	71	227	141
ALMV0.55-ALM075	252	198	215	182	110	120	120	80		160
ALMV0.75-ALM075	252	198	215	182	110	120	120		268	
ALMV1.1-ALM075	259.5	207.5	199	177	110	150	-	90S	265	195
ALMV1.5-ALM075	300.5	227.5	219	197	110	150	-	90L	290	195
ALMV0.55-ALM090	269	215	230	197	110	120	120	80	268	160
ALMV0.75-ALM090	269	215	230	197	110	120	120			
ALMV1.1-ALM090	276.5	224.5	214	192	110	150	-	90S	265	195
ALMV1.5-ALM090	317.5	244.5	234	212	110	150	-	90L	290	195
ALMV1.1-ALM110	307	255	234	212	110	120	-	90S	265	195
ALMV1.5-ALM110	348	275	254	232	110	150	-	90L	290	195
ALMV2.2-ALM110	368	291	298	260	110	160	-		320	215
ALMV3.0-ALM110	368	291	298	260	110	160	-	100L		
ALMV4.0-ALM110	368	291	298	260	110	160	-	112M	340	240
ALMV1.5-ALM130	368	295	274	252	110	150	-	90L	290	195
ALMV2.2-ALM130	388	311	318	280	110	160	-	100L		
ALMV3.0-ALM130	388	311	318	280	110	160	-		320	215
ALMV4.0-ALM130	388	311	318	280	110	160	-	112M	340	240

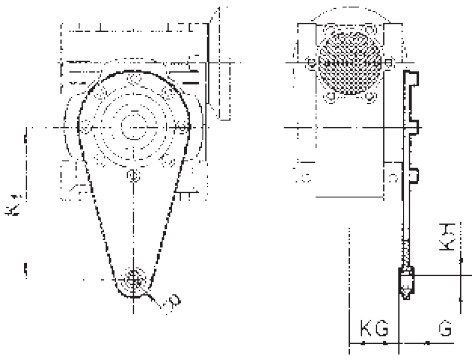
OUTPUT SHAFTS



Single Output Shaft **Double Output Shaft**

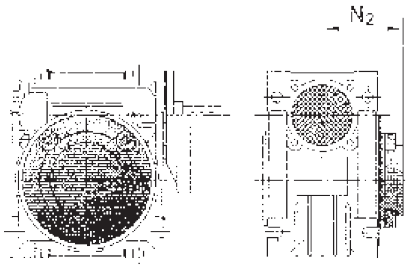
	d_{h6}	B	B1	G_1	L	L_1	f	b_1	t_1
ALM025	11 g6 9*	23 25*	25.5 30*	50 50	51 85.5*	101 101	... ...	4 3*	12.5 10.2*
ALM030	14	30	32.5	63	102	128	M6	5	16
ALM040	18	40	43	78	128	164	M6	6	20.5
ALM050	25	50	53.5	92	153	199	M10	8	28
ALM063	25	50	53.5	112	173	219	M10	8	28
ALM075	28	60	63.5	120	192	247	M10	8	31
ALM090	35	80	84.5	140	234	309	M12	10	38
ALM110	42	80	84.5	155	249	324	M16	12	45
ALM130	45	80	85	170	265	340	M16	14	48.5

TORQUE ARM



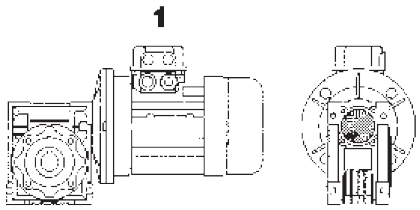
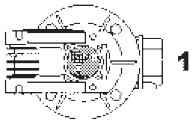
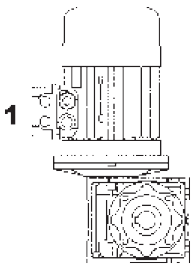
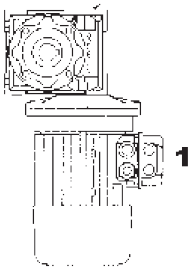
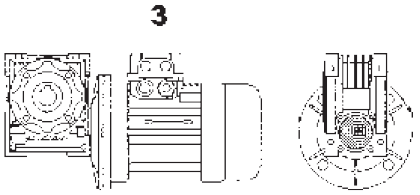
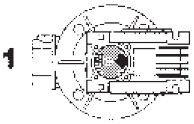
	K1	G	KG	KH	R
ALM025	70	14	17.5	8	15
ALM030	85	14	24	8	15
ALM040	100	14	31.5	10	18
ALM050	100	14	38.5	10	18
ALM063	150	14	49	10	18
ALM075	200	25	47.5	20	30
ALM090	200	25	57.5	20	30
ALM110	250	30	62	25	35
ALM130	250	30	69	25	35

COVER



	N2		N2
ALM030	47	**ALM075**	79
ALM040	55	**ALM090**	94
ALM050	63	**ALM110**	102
ALM063	73	**ALM130**	117

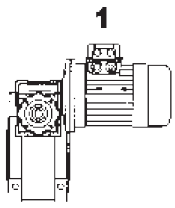
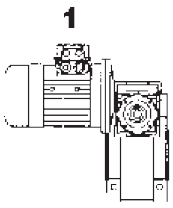
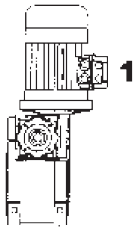
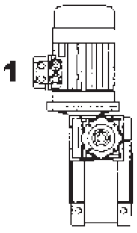
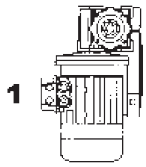
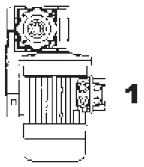
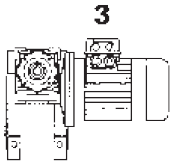
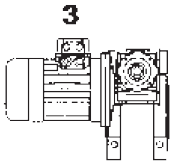
ALM ...OR ALW INSTALLATION POSITIONS DIAGRAM

ALM...U - B3	B6	V5	V6
			
B8	**B7**		
			

"U" version is related to sizes from 025 to 075 and ALW030- 063. For these sizes it is not necessary to specify mounting position.

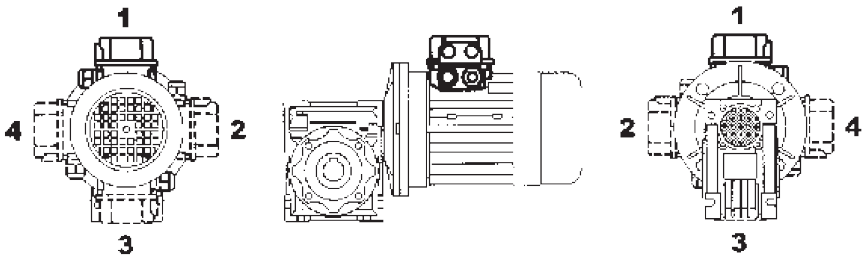
- For vertical positions, please refer to the table on page 48.
- Unless specified otherwise, the standard positions are **B3.**
- For positions not envisaged, it is necessary to call our Technical Service.

ALM..- ALM.. / ALW ... ALW...

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

The position of the 1st reducer with respect with to the 2nd gear reducer depends on the versions. Unless specified at the time of order, combination groups are supplied in version BS2. The specified mounting position refers to the 1st gear reducer, see page 57 for the possible mounting positions.

POSITION OF TERMINAL BOX



In the case of specific requirements, when ordering, specify the position of the terminal box as shown in the diagram.

DIRECTION OF ROTATION

ALM

ALW

ALM - ALM

ALW - ALM

INSTALLATION

To install the reduction unit it is necessary to note the following recommendations.

1. Check the correct direction of rotation of the reduction unit output shaft before fitting the unit to the machine.
2. Before mount with the prime mover and device, please check the reducer's every axial diameter, aperture, key and key slot, to be sure their dimensions are not deviation, and avoid assembling too tight or too loose, unless it will influence the reducer's performance.
3. The mounting on the machine must be stable to avoid any vibration.
4. Whenever possible, protect the reduction unit against solar radiation and bad weather.
5. In the case of particularly lengthy periods of storage (4-6) months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
6. Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
7. When connect with hollow or solid shaft, please grease the joint to avoid lock or oxidation.
8. Check the correct level of the lubricant through the indicator, if there is one.
9. Starting must take place gradually, without immediately applying the maximum load.
10. Supporting unit is required when using various of reducer matched with motor directly and the weight of motor is a little bigger than common.
11. Ensure the motor cools correctly be assuring good passage of air form the fan side.
12. In the case of ambient temperatures <-5°C or +40°C call the Technical Service.

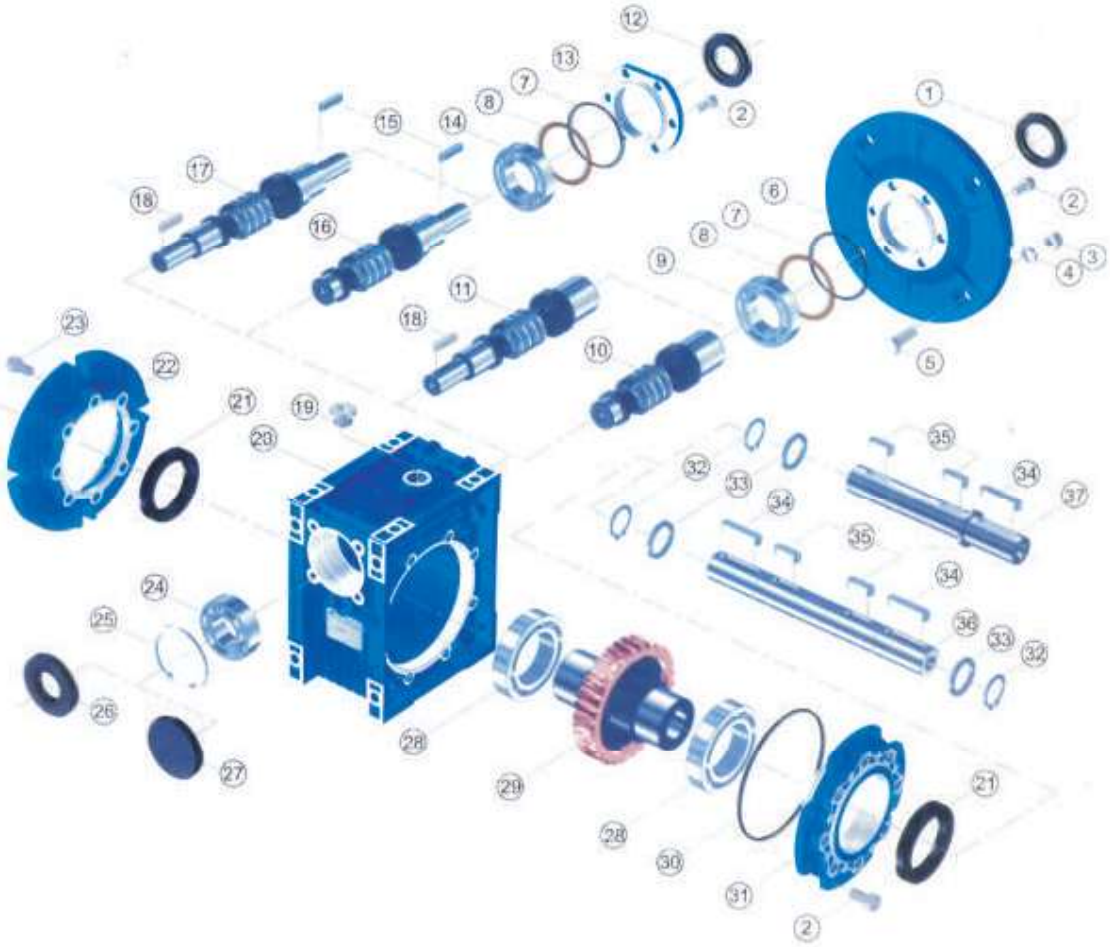
LUBRICANT FILL QUANTITY

	B3	B6	B7	B8	V5	V6
ALM 025	0.023					
ALM 030	0.05					
ALM 040	0.1					
ALM 050	0.15					
ALM 063	0.3					
ALM 075	0.5					
ALM 190	1					
ALM 110	3	2.5	2.5	2.2	3	2.2
ALM 130	4.5	3.5	3.5	3.3	4.5	3.3
PU 063	0.05					
PU 071	0.07					
Pu 080	0.15					
PU 090	0.16					
ALMV0.18	0.13				0.2	
ALMV0.37	0.15				0.25	
ALMV0.55	0.33				0.45	
ALMV0.75	0.33				0.45	
ALMV1.1	0.8				1	
ALMV1.5	0.8				1	
ALMV2.2	1.2				1.2	
ALMV3.0	1.2				1.2	
ALMV4.0	1.2				1.2	

In cases of ambient temperatures not envisaged in the table, call our Technical Service.
In the case of temperature under-30°C or over 60°C, it is necessary to use oil seals with special material.
For operating ranges with temperatures under 0°C, it is necessary to consider the following.
The motors need to be suitable for operation at the envisaged ambient temperature.
The power of the electric motor needs to be adequate for exceeding the higher starting torques required.
In the case of reduction units with a cast-iron case, pay attention to impact loads since cast iron may have problems of fragility at temperatures under - 15°C.
During the early stages of service, problems of lubrication may arise due to the high level of viscosity taken on by the oil and so it is wise to have a few minutes of rotation under no load.
The oil needs to be changed after approximately 10,000 hours. This period depends on the type of service and the environment where the reduction unit works.
The reduction units size 025-030-040-050-063-075-090 are supplied complete with lubricant for life, synthetic oil (SHELL TEVELA OIL 320), and can therefore be mounted in any position envisaged in the catalogue. V5/V6 for which you should call our Technical Service to assess the conditions of use.
The reduction units size 110 and 130 are supplied complete with lubricant, mineral oil, (SHELL TEVELA OIL 320)
The variator speed are supplied complete with lubricant, mineral oil (GUANGYAN Ub-3x).
For sizes 110 and 130 it is necessary to specify the position, otherwise the reduction units are supplied with the quantity of oil relating to pos. B3.
Only reduction units 110 and 130 are fitted with breather, level and oil drainage plugs. It is necessary, after installation, to replace the closed plug used for transportation with the breather plug supplied with the unit.
PC is supplied complete with life-long lubricant, synthetic oil (CHELL TEVELA OIL 320), and can therefore be mounted in all the positions.

1. Please refer to the sheet of performance parameter. ALM series dimensions. Mounting and operation positions diagram, make reasonable choice of model, and write down model mark to your required revolution scope, output torque and structural form on ordering (when ordering, you should show shether the reducers are equipped with motors, otherwise reducers aren't supplied with motors).
2. Please make the best choice of standard products in this catalogue, and give an additional explanation for your special requirement and motors.

EXPLODED VIEW & NAME OF PARTS



1. Oil Seal
2. Inner Hex Screw
3. Nut
4. Spring Washer
5. Hex Screw
6. Input Flange
7. O-Ring
8. Adjust Spacer
9. Bearing
10. Hole Input Worm
11. Hole Input and Shaft Output Worm
12. Oil Seal
13. Input Cover
14. Bearing
15. Key
16. Shaft Input Worm
17. Shaft Input and Shaft Output Worm
18. Key
19. Oil Plug
20. Casing
21. Oil Seal
22. Output Flange
23. Inner Hex Screw
24. Bearing
25. Hole-Circlip
26. Oil Seal
27. Cover
28. Bearing
29. Worm Wheel
30. O-Ring
31. Output Cover
32. Shaft-Circlip
33. Spacer
34. Key
35. Key
36. Double Output Shaft
37. Single Output Shaft