MR35

GEARED MACHINES
MR SERIES

Model	For rated loads up to	Speed range synchronous		Traction sheaves diameter	Max Static Load
	[kg]	50Hz [m/s]	60Hz [m/s]	[mm]	[kN-kg]
MR35 	**5500**	0,62 ... 3,93	0,75 ... 4,72	690,770,800,885	139,3 - 14200

Roping 1 : 1

SICOR
TRACTION MACHINES FOR ELEVATORS

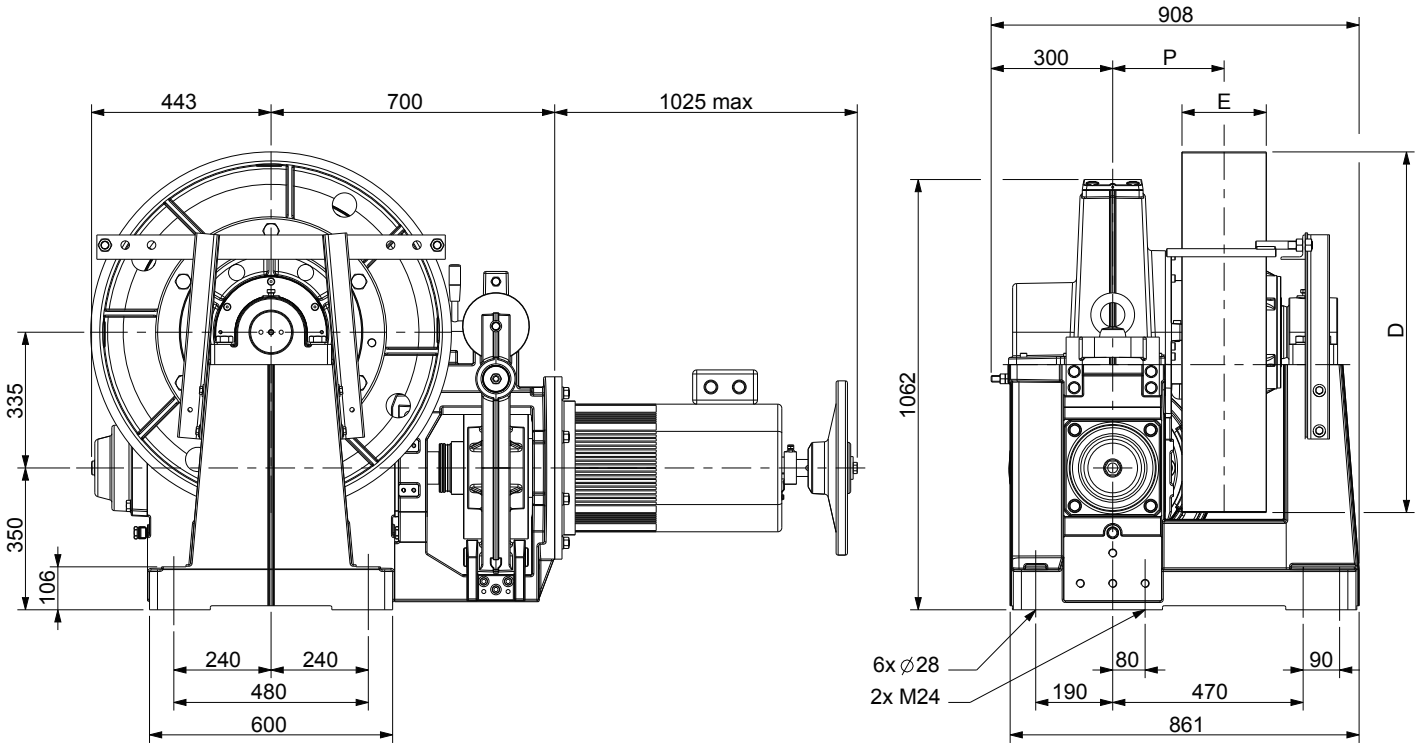
by
SICOR ITALY
AN ELEVANTIS COMPANY

sicoritaly.com

Max. Static Load	**139,3 kN - 14200 kg**
Power Range 50 Hz 4 poles VVVF	**25 ÷ 90 kW**
Power Range 50 Hz 4/16 poles	**25 ÷ 43 kW**
Power Range 33 Hz 4 poles	**20 ÷ 36 kW**
Power Range 50 Hz 6 poles VVVF	**20 ÷ 36 kW (on request)**
Power Range 60 Hz 4 poles VVVF	**27 ÷ 100 kW**
Power Range 60 Hz 4/16 poles	**27 ÷ 44 kW**
Ratio	**1/58; 1/53; 2/73; 2/60; 3/70; 3/53**
Geared Weight	**1600 ÷ 1900 kg**
Oil capacity	**23,5 l**
Geared machine Rh o Lh (from motor side)	**Image ref. to Lh geared**

The geared machine efficiency values are present above each "rated load" table
The motor efficiency values are present in the table "electric motor data"

DIMENSIONS



Wrapping System	Traction sheave		Dimension	Load*)
	D [mm]	E [mm]	P [mm]	F [kN - kg]
CSW	690	208	275	139.3[1] -14200[1] 70[2] - 7150[2]
	770	252		
	800	208		
	885	208		

*) Max. static load on the slow shaft:
CSW: Conventional single wrap
F= 139,3 kN[1]
horizontal component not to exceed
F= 70 kN[2]

**) Diverting pulley must not be located on this (brake) side, rope moust go straight down.

Brake Electromagnet		
[V]	[A]	[W]
48	4,9	235
60	4,5	270
80	3,2	256
110	2,9	319
205	1,6	320

DUTY TABLE
Roping 1:1

50Hz

VVVF 1500 rpm 4 Poles
AC2 1500/375 rpm 4/16 Poles

Motor Output **[kW]**

R.R.	Traction Sheave Ø	Speed syn.	VVVF AC2 **25**	VVVF AC2 **30**	VVVF AC2 **33**	VVVF AC2 **37**	VVVF AC2 **40**	VVVF AC2 **43**	VVVF **55**	VVVF **75**	VVVF **90**
			Max Rated Load								
[i]	[mm]	[m/s]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]
1/58	690	0,93	2975	3700	4100	--	--	--	--	--	--
1/53	690	1,02	2740	3405	3805	4100	--	--	--	--	--
1/58	770	1,04	2665	3315	3700	4100	--	--	--	--	--
1/58	800	1,08	2565	3190	3565	4065	4100	--	--	--	--
1/53	770	1,14	2455	3050	3410	3885	4100	--	--	--	--
1/53	800	1,19	2365	2935	3280	3740	4085	4100	--	--	--
1/58	885	1,20	2320	2880	3220	3670	4010	--	--	--	--
1/53	885	1,31	2135	2655	2965	3380	3690	4000	4100	--	--
2/73	690	1,48	2045	2530	2820	3210	3500	3795	4100	--	--
2/73	770	1,66	1830	2265	2530	2875	3140	3400	4100	--	--
2/73	800	1,72	1765	2180	2435	2770	3020	3270	4100	--	--
2/60	690	1,81	1645	2040	2280	2600	2840	3075	4030	4100	--
2/73	885	1,90	1595	1970	2200	2500	2730	2955	3865	3905	--
2/60	770	2,02	1475	1830	2045	2330	2545	2755	3615	4100	--
2/60	800	2,09	1415	1760	1965	2240	2445	2655	3475	4100	--
2/60	885	2,32	1280	1590	1780	2025	2210	2400	3145	4035	--
3/70	690	2,32	1315	1625	1815	2070	2255	2445	3200	4100	--
3/70	770	2,59	1175	1460	1625	1855	2020	2190	2870	3995	4100
3/70	800	2,69	1130	1405	1565	1785	1945	2110	2760	3845	4100
3/70	885	2,98	1025	1270	1415	1610	1760	1905	2495	3475	3820
3/53	690	3,07	995	1235	1380	1575	1720	1865	2440	3405	4100
3/53	770	3,42	890	1110	1240	1410	1540	1670	2190	3050	3700
3/53	800	3,56	860	1065	1190	1360	1480	1605	2105	2935	3560
3/53	885	3,93	775	965	1075	1225	1340	1450	1905	2655	3220

50Hz

Motor Output **[kW]**

R.R.	Max Output Torque	VVVF AC2 **25**	VVVF AC2 **30**	VVVF AC2 **33**	VVVF AC2 **37**	VVVF AC2 **40**	VVVF AC2 **43**	VVVF **55**	VVVF **75**	VVVF **90**
		Geared Efficiency								
[i]	[Nm]									
1/58	10880	0,72	0,74	0,75	0,77	0,77	0,78	0,80	0,82	0,83
1/53	11500	0,72	0,75	0,76	0,77	0,78	0,79	0,81	0,82	0,83
2/73	10600	0,78	0,81	0,82	0,83	0,84	0,84	0,86	0,88	0,89
2/60	10950	0,77	0,79	0,80	0,82	0,83	0,83	0,85	0,87	0,88
3/70	10370	0,79	0,81	0,82	0,84	0,84	0,85	0,87	0,89	0,90
3/53	10570	0,79	0,82	0,83	0,84	0,85	0,86	0,88	0,90	0,91

Rated load values listed in the table include the weight of the ropes.
To know the theoretical load, subtract the weight of the ropes.
Position Of The Geared = Top Counterweight = 50% Plant efficiency = 0,80

		60Hz										33Hz					
		VVVF 1800 rpm 4 Poles **AC2 1800/450 rpm** 4/16 Poles										**VVVF 1000 rpm** 6 Poles					
		Motor Output **[kW]**															
		VVVF AC2 **27**	VVVF AC2 **33**	VVVF AC2 **36**	VVVF AC2 **40**	VVVF AC2 **44**	VVVF **47**	VVVF **60**	VVVF **90**	VVVF **100**		VVVF **20**	VVVF **25**	VVVF **29**	VVVF **32**	VVVF **36**
R.R.	Traction Sheave Ø	Speed syn.	Max Rated Load									Speed syn.	Max Rated Load				
[i]	[mm]	[m/s]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]	[m/s]	[kg]	[kg]	[kg]	[kg]	[kg]
1/58	690	1,12	2710	3435	3800	3810	--	--	--	--	--	0,62	3720	4100	--	--	--
1/53	690	1,23	2490	3155	3490	3930	3975	--	--	--	--	0,68	3415	4100	--	--	--
1/58	770	1,25	2430	3080	3405	3410	--	--	--	--	--	0,70	3330	4100	--	--	--
1/58	800	1,30	2340	2965	3275	3285	--	--	--	--	--	0,72	3205	4100	--	--	--
1/53	770	1,37	2235	2830	3125	3525	3560	--	--	--	--	0,76	3060	3955	4100	--	--
1/53	800	1,42	2150	2720	3010	3390	3425	--	--	--	--	0,79	2945	3805	4100	--	--
1/58	885	1,44	2115	2680	2960	2970	--	--	--	--	--	0,80	2900	3745	4075	--	--
1/53	885	1,57	1940	2460	2720	3065	3095	--	--	--	--	0,87	2665	3440	4060	4100	--
2/73	690	1,78	1855	2345	2585	2910	3235	3475	3710	--	--	0,99	2545	3270	3855	4100	--
2/73	770	1,99	1665	2100	2315	2610	2900	3115	3325	--	--	1,10	2280	2930	3455	3845	4100
2/73	800	2,07	1600	2020	2230	2510	2790	3000	3200	--	--	1,15	2195	2820	3325	3700	4100
2/60	690	2,17	1490	1890	2090	2355	2620	2820	3680	3910	--	1,20	2045	2640	3120	3475	3955
2/73	885	2,29	1450	1825	2015	2270	2520	2710	2890	--	--	1,27	1985	2550	3005	3345	3800
2/60	770	2,42	1335	1695	1870	2110	2345	2525	3300	3505	--	1,34	1830	2365	2795	3115	3545
2/60	800	2,51	1285	1630	1800	2030	2260	2430	3175	3375	--	1,40	1765	2280	2690	3000	3410
2/60	885	2,78	1160	1475	1630	1835	2040	2195	2870	3050	--	1,54	1595	2060	2430	2710	3085
3/70	690	2,79	1180	1495	1655	1865	2075	2230	2910	3950	--	1,55	1630	2100	2480	2760	3140
3/70	770	3,11	1060	1340	1480	1670	1860	2000	2610	3540	--	1,73	1460	1885	2220	2475	2815
3/70	800	3,23	1020	1290	1425	1605	1790	1925	2510	3405	--	1,80	1405	1810	2140	2380	2705
3/70	885	3,57	920	1165	1290	1450	1615	1740	2270	3080	--	1,99	1270	1640	1930	2155	2445
3/53	690	3,68	905	1150	1270	1430	1590	1710	2230	3435	3630	2,04	1240	1600	1890	2105	2395
3/53	770	4,11	810	1030	1135	1280	1425	1530	2000	3080	3250	2,28	1110	1435	1695	1885	2145
3/53	800	4,27	780	990	1095	1230	1370	1475	1925	2965	3130	2,37	1070	1380	1630	1815	2065
3/53	885	4,72	705	895	990	1115	1240	1335	1740	2680	2830	2,62	965	1245	1475	1640	1865

		60Hz										33Hz					
		Motor Output **[kW]**															
		VVVF AC2 **27**	VVVF AC2 **33**	VVVF AC2 **36**	VVVF AC2 **40**	VVVF AC2 **44**	VVVF **47**	VVVF **60**	VVVF **90**	VVVF **100**		VVVF **20**	VVVF **25**	VVVF **29**	VVVF **32**	VVVF **36**
R.R.	Max Output Torque	Geared Efficiency									Max Output Torque	Geared Efficiency				
[i]	[Nm]										[Nm]					
1/58	8060	0,73	0,75	0,76	0,77	0,78	0,79	0,81	0,83	0,83	11060	0,75	0,77	0,78	0,79	0,80
1/53	8410	0,73	0,76	0,77	0,78	0,79	0,79	0,81	0,83	0,84	11500	0,75	0,78	0,79	0,80	0,81
2/73	7850	0,79	0,82	0,82	0,84	0,84	0,85	0,87	0,89	0,89	10600	0,81	0,83	0,85	0,86	0,86
2/60	8280	0,77	0,80	0,81	0,82	0,83	0,84	0,86	0,88	0,88	11370	0,79	0,82	0,83	0,84	0,85
3/70	8360	0,79	0,82	0,83	0,84	0,85	0,85	0,87	0,89	0,90	10820	0,81	0,84	0,85	0,86	0,87
3/53	7680	0,80	0,83	0,84	0,85	0,86	0,86	0,88	0,91	0,91	10990	0,82	0,84	0,86	0,87	0,88

		50Hz														
		VVVF 1500 rpm 4 Poles **AC2 1500/375 rpm** 4/16 Poles														
		Asynchronous Rated Power **[kW]**														
		VVVF **25**	VVVF **30**	VVVF **33**	VVVF **37**	VVVF **40**	VVVF **43**	VVVF **55**	VVVF **75**	VVVF **90**	AC2 **25**	AC2 **30**	AC2 **33**	AC2 **37**	AC2 **40**	AC2 **43**
		Motor Parameters														
Rated Voltage (star connection) (1) (3)	[V]	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
Frequency	[Hz]	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Synchronous Speed	[rpm]	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500/375	1500/375	1500/375	1500/375	1500/375	1500/375
Asynchronous Speed	[rpm]	1459	1459	1461	1456	1460	1457	1471	1461	1465	1384/300	1350/305	1370/290	1370/300	1380/315	1370/300
Rated Current (2)	[A]	49	59	66	74	80	86	99	130	156	59/39	69/51	73/55	82/55	88/62	95/63
Rated Torque	[Nm]	164	196	216	243	262	282	357	490	587	173	212	230	258	178	300
Cos φ Power Factor	[ ]	0,84	0,82	0,84	0,83	0,84	0,85	0,89	0,9	0,91	--	--	--	--	--	--
Starting Current	[A]	193	235	264	296	325	325	277	365	468	207	245	275	350	314	355
Starting Torque	[Nm]	410	510	550	630	700	700	821	1078	1291	419	514	570	639	667	745
Duty Cycle	[%]	60	60	60	60	60	60	40	40	40	30+10	30+10	30+10	30+10	30+10	30+10
Starts per Hour	[s/h]	240	240	240	240	240	240	240	240	240	180	180	180	180	180	180
Insulation Class	[ ]	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
Degree of Protection IP	[ ]	IP21	IP21	IP21	IP21	IP21	IP21	IP21	IP21	IP21	IP21	IP21	IP21	IP21	IP21	IP21

(1) The motors are standard supplied with star connection (Y), the customer can arrange a delta connection (Δ).
(2) The indicated current values are related to 400V voltage. For current values with delta connection, multiply the values by 1,732.
(3) The standard supply voltage is suitable for 380-400V/220-230V power supplies.
The geared machine is fan cooled with a fan mounted on the motor shaft or force ventilated with external fan 1 ~ 220 ... 240V 50/60Hz

		60Hz				
		AC2 1800/450 rpm 4/16 Poles				
		Asynchronous Rated Power **[kW]**				
		AC2 **27**	AC2 **33**	AC2 **36**	AC2 **40**	AC2 **44**
		Motor Parameters				
Rated Voltage (star connection) (1) (3)	[V]	400	400	400	400	400
Frequency	[Hz]	60	60	60	60	60
Synchronous Speed	[rpm]	1800/450	1800/450	1800/450	1800/450	1800/450
Asynchronous Speed	[rpm]	1675/365	1680/380	1670/360	1640/360	1655/375
Rated Current (2)	[A]	63/40	71/52	76/59	82/55	88/62
Rated Torque	[Nm]	154	188	234	265	289
Cos φ Power Factor	[ ]	--	--	--	--	--
Starting Current	[A]	220	261	275	285	315
Starting Torque	[Nm]	358	430	502	570	600
Duty Cycle	[%]	30+10	30+10	30+10	30+10	30+10
Starts per Hour	[s/h]	180	180	180	180	180
Insulation Class	[ ]	F	F	F	F	F
Degree of Protection IP	[ ]	IP21	IP21	IP21	IP21	IP21

(1) The motors are standard supplied with star connection (Y), the customer can arrange a delta connection (Δ).
(2) The indicated current values are related to 400V voltage. For current values with delta connection, multiply the values by 1,732.
(3) The standard supply voltage is suitable for 380-400V/220-230V power supplies.
The geared machine is fan cooled with a fan mounted on the motor shaft or force ventilated with external fan 1 ~ 220 ... 240V 50/60Hz

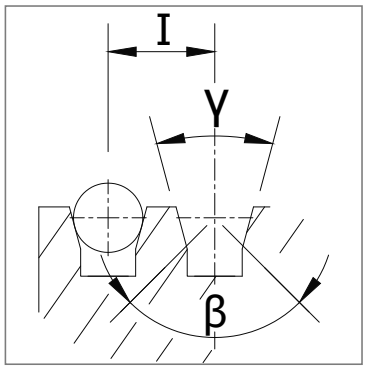
		33Hz		
		VVVF 1000 rpm 4 Poles		
		Asynchronous Rated Power **[kW]**		
		VVVF **20**	VVVF **25**	VVVF **29**
		Motor Parameters		
Rated Voltage (star connection) (1) (3)	[V]	400	400	400
Frequency	[Hz]	33	33	33
Synchronous Speed	[rpm]	990	990	990
Asynchronous Speed	[rpm]	954	943	948
Rated Current (2)	[A]	43	51	60
Rated Torque	[Nm]	200	253	292
Cos φ Power Factor	[ ]	0,81	0,85	0,83
Starting Current	[A]	205	224	242
Starting Torque	[Nm]	500	630	690
Duty Cycle	[%]	60	60	60
Starts per Hour	[s/h]	240	240	240
Insulation Class	[ ]	F	F	F
Degree of Protection IP	[ ]	IP21	IP21	IP21

(1) The motors are standard supplied with star connection (Y), the customer can arrange a delta connection (Δ).
(2) The indicated current values are related to 400V voltage. For current values with delta connection, multiply the values by 1,732.
Motor are manufactured for 33HZ-50Hz. Inverter must assure those frequencies and voltages independently from the net frequency.
(3) The standard supply voltage is suitable for 380-400V/220-230V power supplies.
The geared machine is fan cooled with a fan mounted on the motor shaft or force ventilated with external fan 1 ~ 220 ... 240V 50/60Hz

TRACTION SHEAVES AND GROOVES NUMBER x ROPES DIAMETER

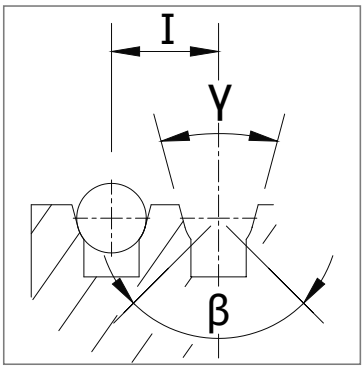
Wrapping System	Traction sheave		Max n° Grooves x D	Grooves Pitch
	D [mm]	E [mm]	n° x mm	I [mm]
CSW	690	208	10xD13	19
	690	208	9xD14	22
	690	208	9xD15	22
	690	208	9xD16	22
	770	252	12xD13	19
	770	252	11xD14	22
	770	252	11xD15	22
	770	252	11xD16	22
	800	208	10xD13	19
	800	208	9xD14	22
	800	208	9xD15	22
	800	208	9xD16	22
	885	208	10xD13	19
	885	208	9xD14	22
	885	208	9xD15	22
	885	208	9xD16	22

VCI



V grooves with undercut

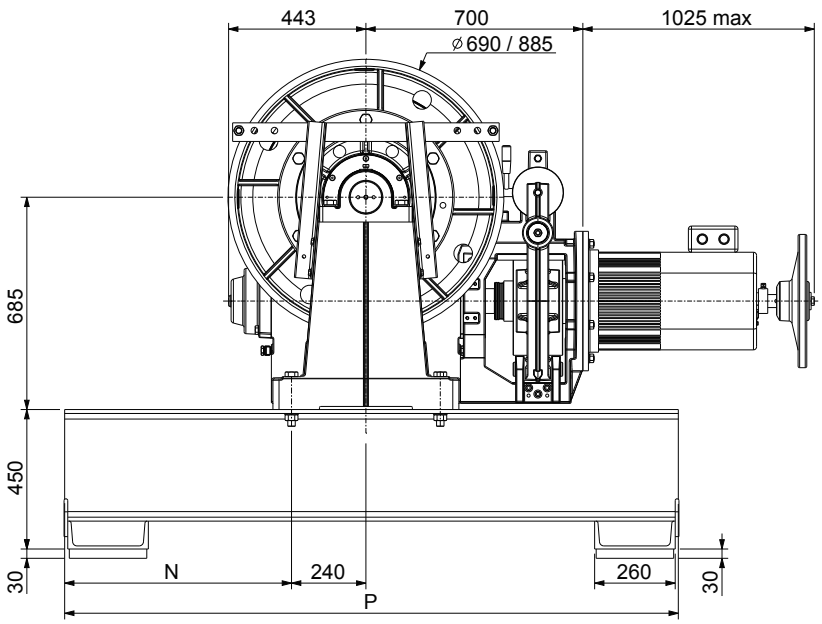
UCI

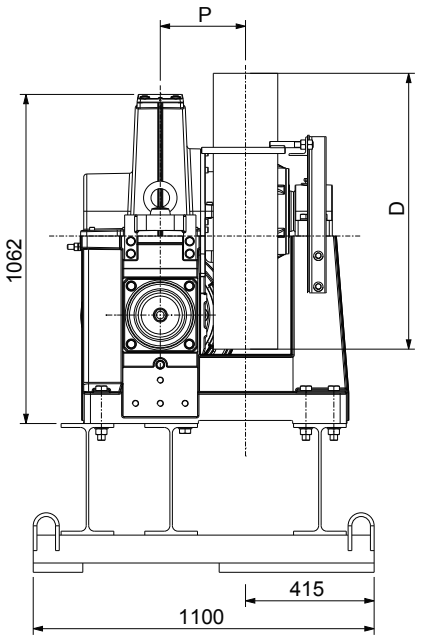


U grooves with undercut

γ = groove angle
β = undercut angle
I = grooves pitch

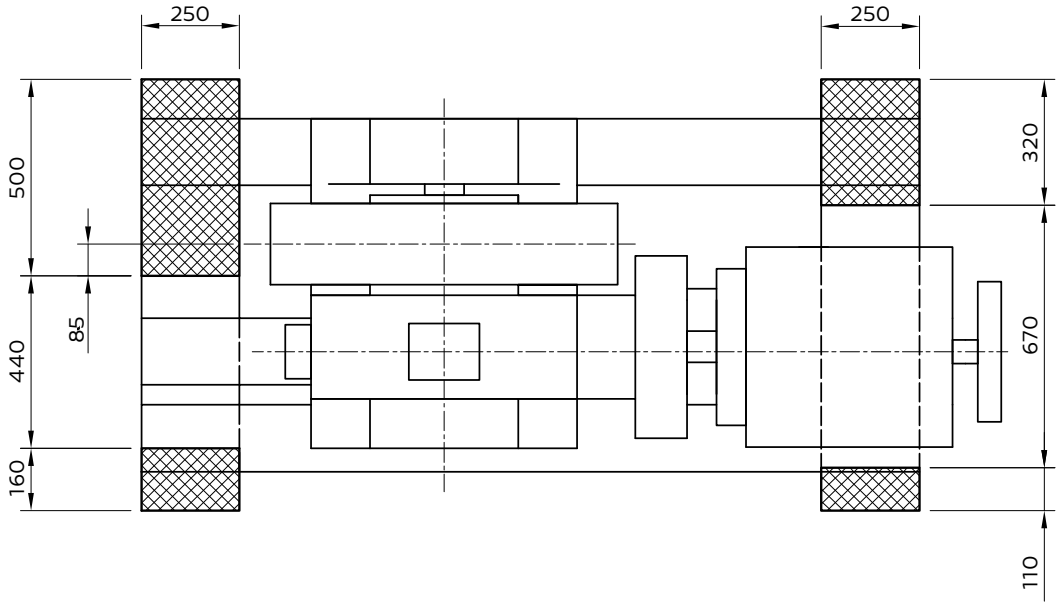
BEDPLATE | TOP MACHINE WITHOUT DIVERTING PULLEY FOR CSW WINDING



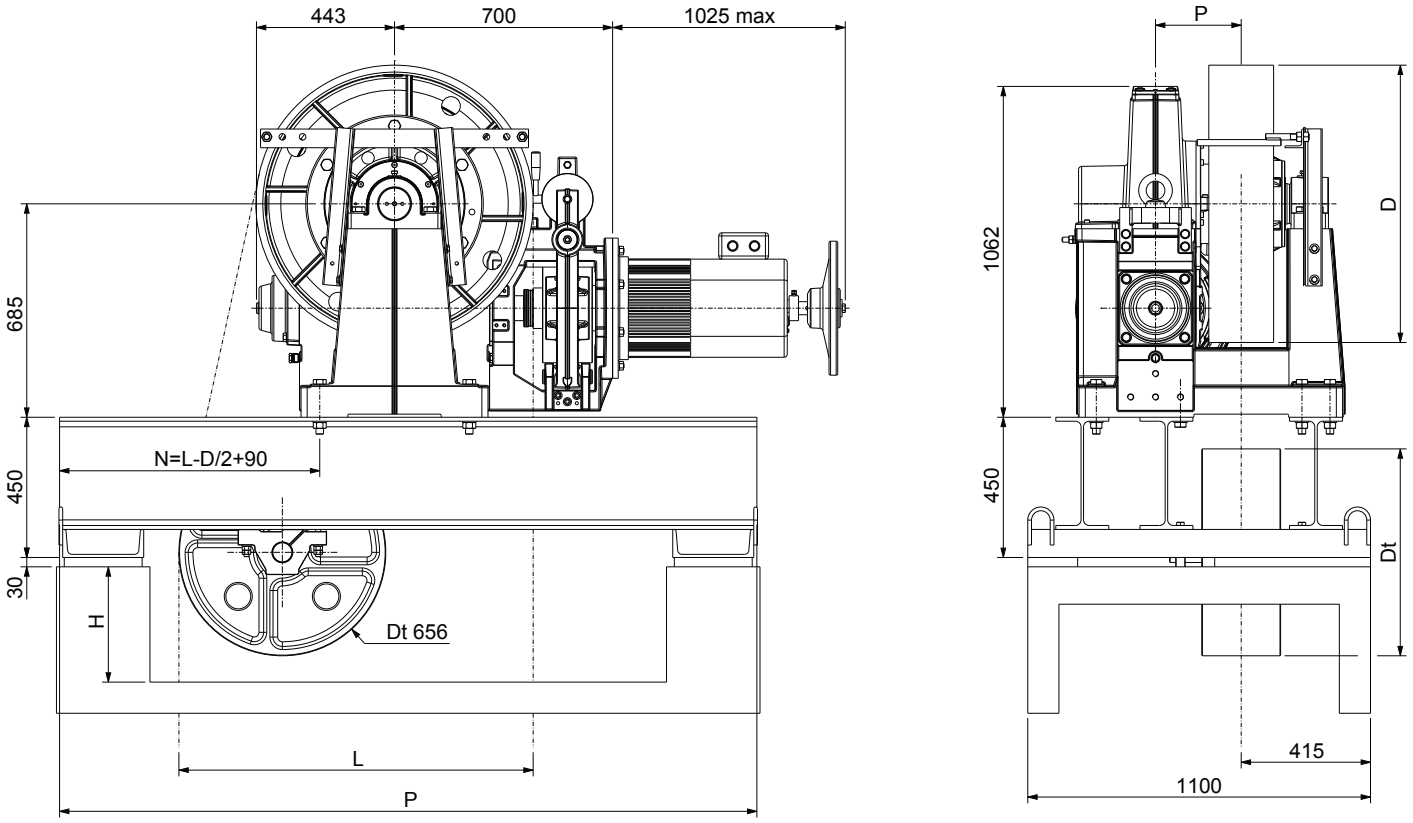


XTE7658
To ask for dimension (included vibration dampers)
Dimensions P and N
P standard = 1980 weight of machine bedplate 430 kg.
P max = 3300 weight of machine bedplate 650 kg.
P min = 1590 weight of machine bedplate 360 kg.

VIBRATIONS DAMPER SET UP

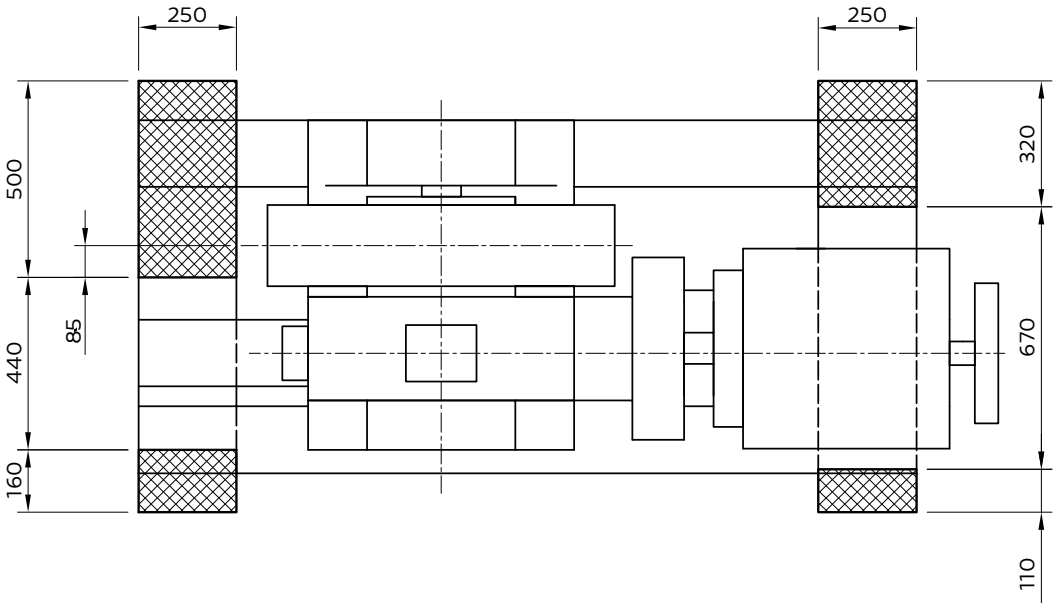


BEDPLATE | TOP MACHINE WITH DIVERTING PULLEY FOR CSW WINDING

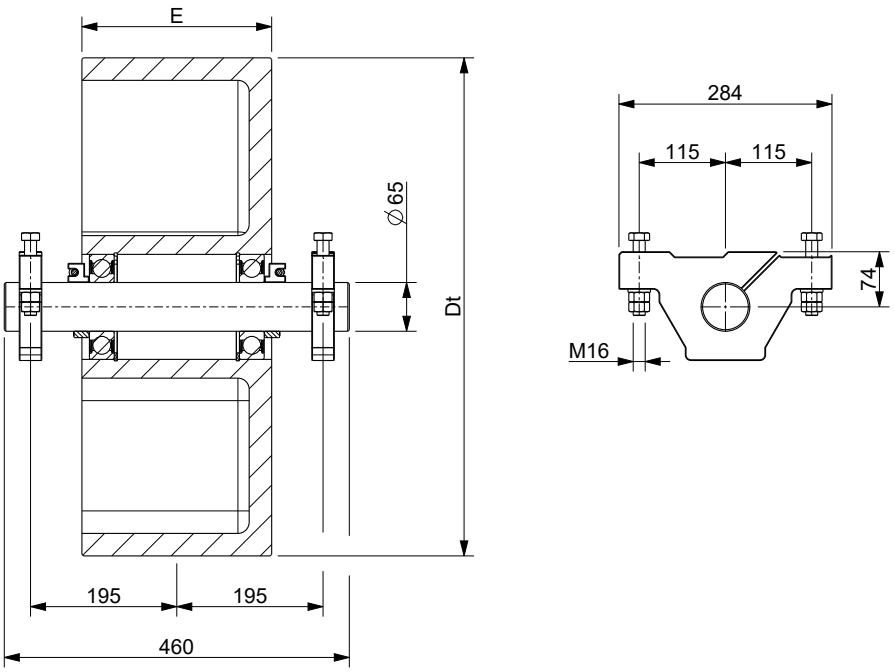


XTE7661
To ask for dimension (included vibration dampers)
Dimensions P and N
P standard = 1980 weight of machine bedplate 430 Kg
P max = 3300 weight of machine bedplate 650 Kg
P min = 1590 weight of machine bedplate 360 Kg
Dimension Hmin = (Dt / 2) + 75
Diverting pulley must not be located on the brake side. rope moust go straight down.

VIBRATION DAMPER SET UP



DIVERTING PULLEYS AND GROOVES NUMBER x ROPES DIAMETER



Diverting Pulley		Max n°Grooves x D	Grooves Pitch	Distance	Length	Force
D [mm]	E [mm]		I [mm]	X [mm]	L [mm]	F Max. [kN]
656	253	12xD13	19	72	915	42,6
		11xD16	22	72	915	42,6

SICOR
TRACTION MACHINES FOR ELEVATORS

by
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