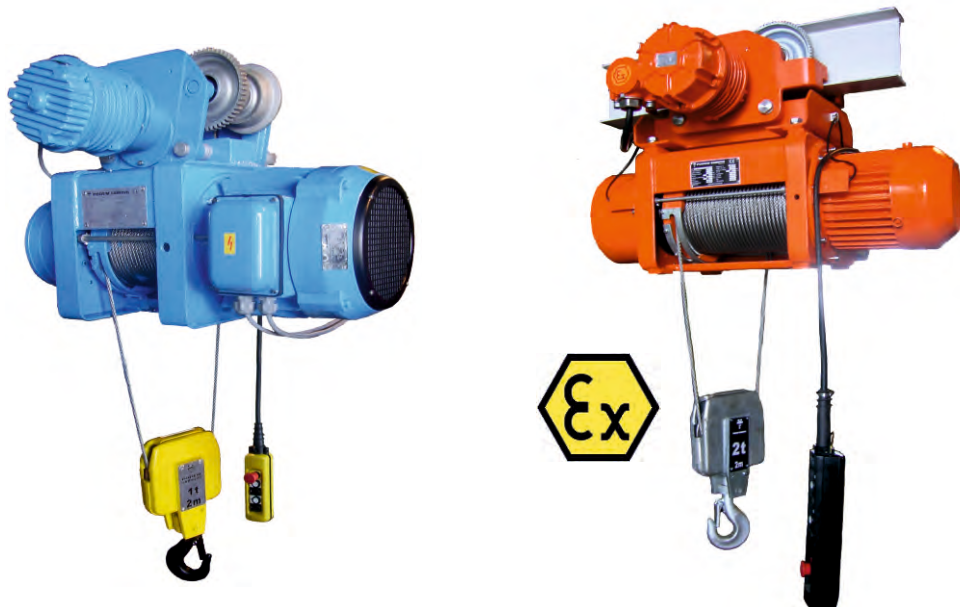




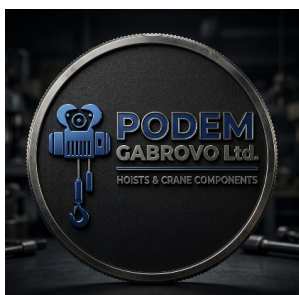
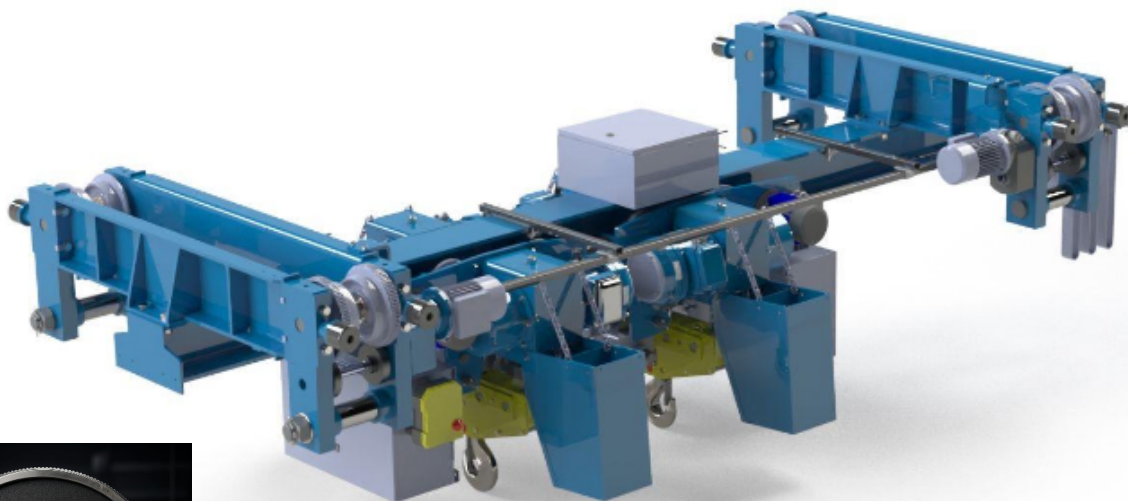
Electric Wire Rope hoists type MT

The MT-series rope electric hoists offer the customer new opportunities for efficient operation.

Reliability, long life, convenience and safety of operation are main features of these products.

The wide range of capacities, lifting heights, lifting and travel speeds, different constructive modifications, various operation modes provides effective applicability of the series in nearly all industrial fields.

The Hoist construction is based on the module principle and consists of separate blocks. The modern technological and production equipment ensures high quality of hoist units and details.



Selection

SELECTION CRITERIA

To choose the right hoists the following criteria should be taken account:

1. What will be the maximum loading capacity?
2. What will be the maximum lifting height?
3. What hoisting speed is to be employed?
4. Will an auxiliary reduced lifting speed be required?
5. What will the operational conditions be?
6. What will the travelling speed be, if required?
7. How do you need to operate the hoists?

The type of the hoists is to be defined in accordance with the load spectrum, the average operating time per day in hours, the loading capacity and the reeving.

SELECTION EXAMPLE

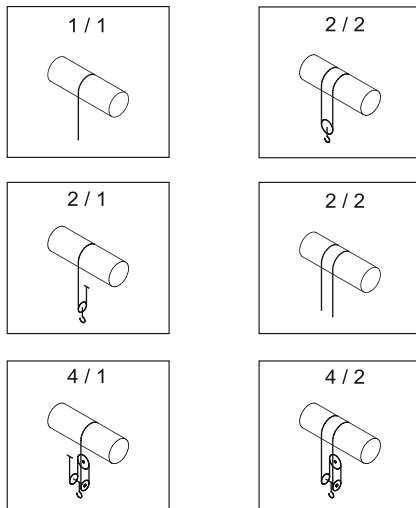
Loading capacity **- 5000 kg**
 Average lifting path of the hook (H) **- 6 m**
 Hoisting speed (V) **- 8 m/min**
 Reeving **- 2/1**
 Load spectrum **- "medium"**
 Cycles per hour (N) **- 20**
 Average operating time per day (T) **- 7 hours**

The average operating time per day of the hoist is to be calculated in the in the following manner:

$$T_m = \frac{2 \times H \times N \times T}{60 \times V} = \frac{2 \times 6 \times 20 \times 7}{60 \times 8} = 3.5 \text{ hours}$$

For the "medium" load spectrum and average operating time per day of 3.5 hours the group "2m" is shown in table "LOAD SPECTRUM-CLASS OF OPERATING TIME".

For loading capacity of 5000 kg and 2/1 reeving the type of the hoist "MT 625" or "MT 725" is shown in table 1 - "TYPE SELECTION".



Load Spectrum (Duty operation mode) DEFINITION			Class of Operating Time average operating time per day Tm in hours		
LIGHT	Mechanisms, usually subject to very small loads and in exceptional cases only to maximum loads		2 - 4	4 - 8	8 - 16
MEDIUM	Mechanisms, usually subject to small loads but rather often to maximum loads		1 - 2	2 - 4	4 - 8
HEAVY	Mechanisms, usually subject to medium loads but frequently maximum loads		0.5 - 1	1 - 2	2 - 4
VERY HEAVY	Mechanisms, usually subject to maximum or almost maximum loads		0.25 - 0.5	0.5 - 1	1 - 2
GROUP - DIN 15 020 / FEM 9.511			1 Am	2 m	3 m
GROUP - ISO 4301			M4	M5	M6

Type Selection

CAPACITY, kg			SERIES	SIZE		
REEVING						
1 / 1 2 / 2	2 / 1 4 / 2	4 / 1				
400	800	1600	MT 3 MT 4 MT 5	—	—	MT 304 MT 404 MT 504
500	1000	2000		—	MT 305 MT 405 MT 505	—
800	1600	3200	MT 3 MT 4 MT 6	MT 308	—	MT 408 MT 608
1000	2000	4000		—	MT 410 MT 610	—
1250	2500	5000	MT 5 MT 6	—	—	MT 512 MT 612
1600	3200	6300		—	MT 516 MT 616	—
2000	4000	8000	MT 6 MT 7	—	—	MT 620 MT 720
2500	5000	10000		—	MT 625 MT 725	—
3200	6300	12500	MT 7	—	MT 732	—
4000	8000	16000		MT 740	—	—
5000	10000	20000		—	MT 750	—
6300	12500	25000		MT 763	—	—

Type selection

Table 1

Capacity, kg	Hoist size	DIN 15020 FEM 9,511	ISO 4301	REEVING	Drum Size								Lifting speed, m/min		
					01	02	03	04	05	06	07	08	V1 V1/M1	V2 V2/M2	
					Lifting height H, m										
400	MT304	3m	M6	1/1	12	19	26	40,5	54,5	-	-	-	16 16/4	24 24/4	
	MT404				-	-	-	-	73	-	-	-			
	MT504				-	-	-	-	81	102	-	-			
	MT304			2/2	-	-	11	20,5	29,5	-	-	-			
	MT404				-	-	15	-	-	-	-	-			
	MT504				-	-	-	31,5	-	-	-	-			
500	MT 305	2m	M5	1/1	12	19	26	40,5	54,5	-	-	-	16 16/4	24 24/4	
	MT 405				-	-	-	-	73	-	-	-			
	MT505				-	-	-	-	81	102	-	-			
	MT305			2/2	-	-	11	20,5	29,5	-	-	-			
	MT 405				-	-	15	-	-	-	-	-			
	MT 505				-	-	-	31,5	-	-	-	-			
800	MT 308	1Am	M4	1/1	12	19	26	40,5	54,5	-	-	-	16 16/4	-	
	MT 408	3m	M6		10	17	24	37	50,5	-	-	-		24 24/4	
	MT 608				-	-	-	-	67	76	91,5	-			
	MT308	1Am	M4	2/2	-	-	11	20,5	29,5	-	-	-		-	24 24/4
	MT408	3m	M6		-	-	10	19,5	29	-	-	-			
	MT608				-	-	-	-	39,5	46,5	56,5	-			
	MT304	3m	M6	2/1	6	9,5	13	20	27	-	-	-	8 8/2	12 12/2	
	MT404				-	-	-	-	36	-	-	-			
	MT504				-	-	-	-	40,5	51	-	-			
	MT304			4/2	-	-	-	10	14,5	-	-	-			
	MT404				-	-	7,5	-	-	-	-	-			
	MT504				-	-	-	15,5	-	-	-	-			
1000	MT410	2m	M5	1/1	10	17	24	37	50,5	-	-	-	16 16/4	24 24/4	
	MT610				-	-	-	-	67	76	91,5	-			
	MT410				-	-	10	19,5	29	-	-	-			
	MT610			2/2	-	-	-	-	39,5	46,5	56,5	-			
	MT305				6	9,5	13	20	27	-	-	-			
	MT405				-	-	-	-	36	-	-	-			
	MT505	2m	M5	2/1	-	-	-	-	40,5	51	-	-	8 8/2	12 12/2	
	MT305				-	-	-	-	40,5	51	-	-			
	MT405				-	-	-	-	40,5	51	-	-			
	MT305			4/2	-	-	-	10	14,5	-	-	-			
	MT405				-	-	7,5	-	-	-	-	-			
	MT505				-	-	-	15,5	-	-	-	-			
1250	MT 512	3m	M6	1/1	10 (12,5)	16 (21)	22,5 (29)	34,5 (44,5)	46,5 (60)	59 (76)	-	-	16 16/4	24 24/4	
	MT 612				-	-	-	-	55,5 (67)	63 (76)	75,5 (91,5)	-			
	MT512			2/2	-	-	7	14,5	22	29	-	-			
	MT612				-	-	-	-	25,5	30,5	37,5	-			

Table 1 - cont'd

Capacity, kg	Hoist size	DIN 15020 FEM 9.511	ISO 4301	REEVING	Drum Size								Lifting speed, m/min			
					01	02	03	04	05	06	07	08	V1 V1/M1	V2 V2/M2		
					Lifting height H, m											
1600	MT516	2m	M5	1/1	10 (12,5)	16 (21)	22,5 (29)	34,5 (44,5)	46,5 (60)	59 (76)	-	-	16 16/4	24 24/4		
	MT616				-	-	-	-	55,5 (67)	63 (76)	75,5 (91,5)	-				
	MT516			2/2	-	-	7	14,5	22	29	-	-				
	MT616				-	-	-	-	25,5	30,5	37,5	-				
	MT308	1Am	M4	2/1	6	9,5	13	20	27	-	-	-	8 8/2	-		
	MT408	3m	M6		5	8,5	12	18,5	25	-	-	-				
	MT608				-	-	-	-	33,5	38	45,5	-				
	MT308	1Am	M4	4/2	-	-	-	10	14,5	-	-	-	8 8/2	-		
	MT408	3m	M6		-	-	-	9,5	14,5	-	-	-				
	MT608				-	-	-	-	19,5	23	28	-				
	MT304			4/1	-	-	6,5	10	13,5	-	-	-	4 4/1	6 6/1		
	MT404				-	-	-	-	18	-	-	-				
	MT504				-	-	-	-	20	25,5	-	-				
2000	MT620	3m	M6	1/1	-	14,5 (17)	20,5 (24)	33 (38)	45 (52,5)	51 (59,5)	61 (71)	-	16 16/4	24 24/4		
	MT720				-	-	-	-	-	66,5 (76,5)	80 (92)	-				
	MT620			2/2	-	-	-	11,5	19	22,5	29	-			16 16/4	24 24/4
	MT720				-	-	-	-	-	31	39,5	-				
	MT410	2m	M5	2/1	5	8,5	12	18,5	25	-	-	-	8 8/2	12 12/2		
	MT610				-	-	-	-	33,5	38	45,5	-				
	MT410			4/2	-	-	-	9,5	14,5	-	-	-				
	MT610				-	-	-	-	19,5	23	28	-				
	MT305			4/1	-	-	6,5	10	13,5	-	-	-	4 4/1	6 6/1		
	MT405				-	-	-	-	18	-	-	-				
	MT505				-	-	-	-	20	25,5	-	-				
	2500	MT625	2m	M5	1/1	-	14,5 (17)	20,5 (24)	33 (38)	45 (52,5)	51 (59,5)	61 (71)	-	16 16/4	24 24/4	
		MT725				-	-	-	-	-	66,5 (76,5)	80 (92)	-			
MT625		2/2			-	-	-	11,5	19	22,5	29	-				
MT725					-	-	-	-	-	31	39,5	-				
MT512		3m	M6	2/1	5 (6)	8 (10,5)	11 (14,5)	17 (22)	23 (30)	29,5 (38)	-	-	8 8/2	12 12/2		
MT612					-	-	-	-	27,5 (33)	31,5 (38)	37,5 (45,5)	-				
MT512				4/2	-	-	-	7	11	14,5	-	-				
MT612					-	-	-	-	12,5	15	18,5	-				
3200	MT732	2m	M5	1/1	-	15 (17,5)	24 (28)	33,5 (38)	45,5 (52)	57,5 (66)	69,5 (79,5)	-	16 16/4	-		
	2/2			-	-	-	10	16,5	24	30,5	-					
	MT516			2/1	5 (6)	8 (10,5)	11 (14,5)	17 (22)	23 (30)	29,5 (38)	-	-	8 8/2	12 12/2		
	MT616				-	-	-	-	27,5 (33)	31,5 (38)	37,5 (45)	-				
	MT516			4/2	-	-	-	7	11	14,5	-	-				
	MT616				-	-	-	-	12,5	15	18,5	-				
	MT308	1Am	M4	4/1	-	-	6,5	10	13,5	-	-	-	4 4/1	-		
	MT408	3m	M6		-	-	6	9	12,5	-	-	-				
	MT608				-	-	-	-	16,5	19	22,5	-				

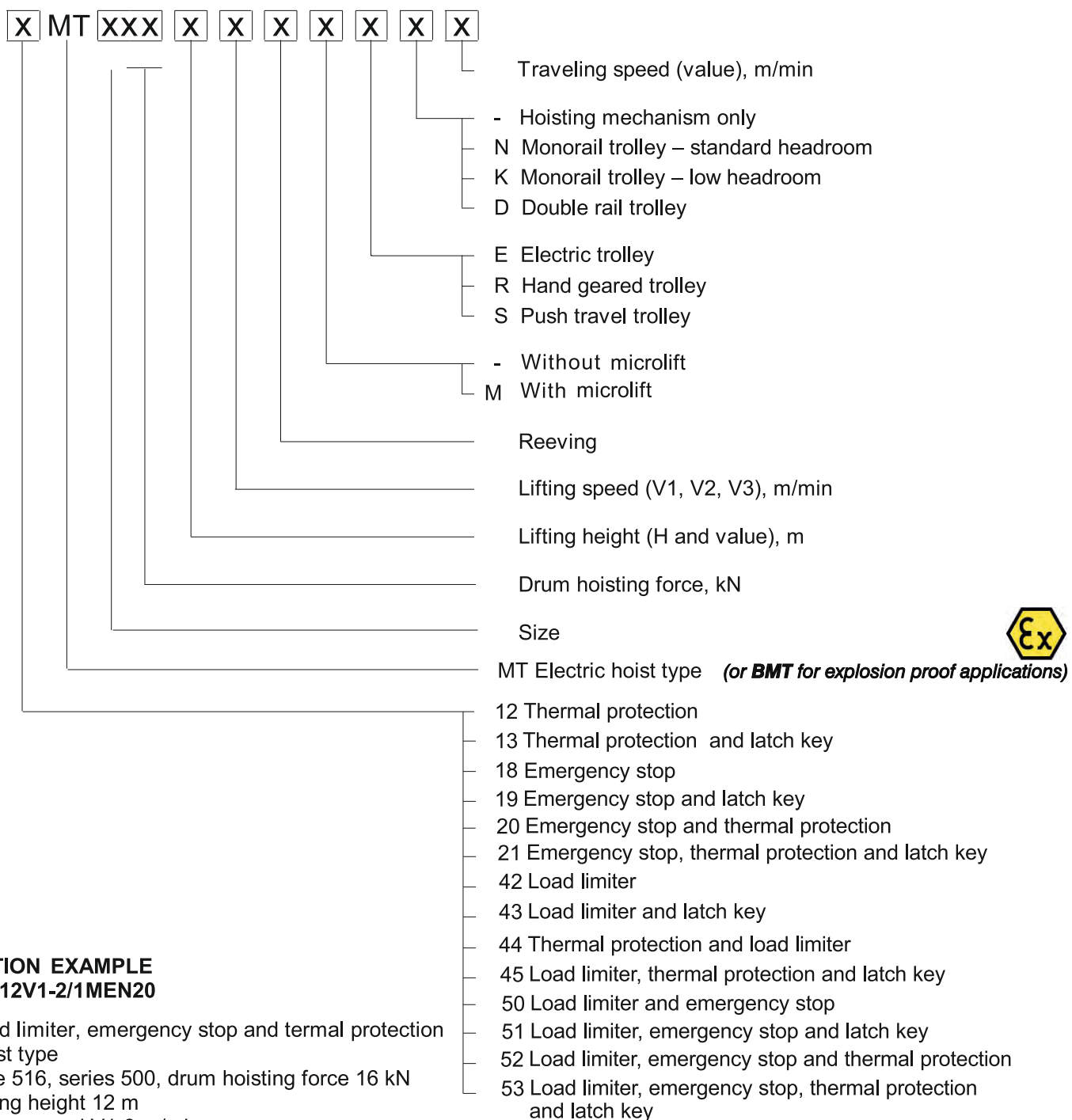
Table 1 - cont'd

Capacity, kg	Hoist size	DIN 15020 FEM 9.511	ISO 4301	REEVING	Drum Size								Lifting speed, m/min	
					01	02	03	04	05	06	07	08	V1 V1/M1	V2 V2/M2
					Lifting height, m									
4000	MT 740	1Am	M4	1/1	-	15 (17,5)	24 (28)	33,5 (38)	45,5 (52)	57,5 (66)	69,5 (79,5)	-	16 16/4	-
				2/2	-	-	-	10	16,5	24	30,5	-		
	MT620	3m	M6	2/1	-	7 (8,5)	10 (12)	16,5 (19)	22,5 (26)	25,5 (29,5)	30,5 (35,5)	-	8 8/2	12 12/2
	MT720				-	-	-	-	-	33 (38)	40 (46)	-		
	MT620			4/2	-	-	-	-	9,5	11	14,5	-		
					MT720	-	-	-	-	-	15,5	19,5		
	MT410	2m	M5	4/1	-	-	6	9	12,5	-	-	-	4 4/1	6 6/1
					MT610	-	-	-	-	16,5	19	22,5		
5000	MT 750	2m	M5	1/1	-	15 (17,5)	24 (28)	33,5 (38)	45,5 (52)	57,5 (66)	69,5 (79,5)	-	12,5 12,5/3,2	-
				2/2	-	-	-	10	16,5	24	30,5	-		
	MT625	2m	M5	2/1	-	7 (8,5)	10 (12)	16,5 (19)	22,5 (26)	25,5 (29,5)	30,5 (35,5)	-	8 8/2	12 12/2
	MT725				-	-	-	-	-	33 (38)	40 (46)	-		
	MT625			4/2	-	-	-	-	9,5	11	14,5	-		
					MT725	-	-	-	-	-	15,5	19,5		
	MT 512	3m	M6	4/1	-	-	5,5 (7)	8,5 (11)	11,5 (15)	14,5 (19)	-	-	4 4/1	6 6/1
					MT612	-	-	-	-	13,5 (16,5)	15,5 (19)	18,5 (22,5)		
6300	MT 763	1Am	M4	1/1	-	15 (17,5)	24 (28)	33,5 (38)	45,5 (52)	57,5 (66)	69,5 (79,5)	-	10,5 10,5/2,6	12 12/2
	MT732	2m	M5	2/1	-	7,5 (8,5)	12 (14)	16,5 (19)	22,5 (26)	28,5 (33)	34,5 (39,5)	-	8 8/2	
				4/2	-	-	-	5	8	12	15	-		
	4/1				-	-	5,5 (7)	8,5 (11)	11,5 (15)	14,5 (19)	-	-	4 4/1	
				MT616	-	-	-	-	13,5 (16,5)	15,5 (19)	18,5 (22,5)	-		
8000	MT 740	2m	M5	2/1	-	7,5 (8,5)	12 (14)	16,5 (19)	22,5 (26)	28,5 (33)	34,5 (39,5)	-	8 8/2	12 12/2
				4/2	-	-	-	5	8	12	15	-		
	MT620	3m	M6	4/1	-	-	5 (6)	8 (9,5)	11 (13)	12,5 (14,5)	15 (17,5)	-	4 4/1	6 6/1
					MT720	-	-	-	-	16,5 (19)	20 (23)	-		
10000	MT 750	2m	M5	2/1	-	7,5 (8,5)	12 (14)	16,5 (19)	22,5 (26)	28,5 (33)	34,5 (39,5)	-	8 8/2	12 12/2
				4/2	-	-	-	5	8	12	15	-	8 8/2	12 12/2
	MT625			4/1	-	-	5 (6)	8 (9,5)	11 (13)	12,5 (14,5)	15 (17,5)	-	4 4/1	6 6/1
					MT725	-	-	-	-	16,5 (19)	20 (23)	-		
12500	MT 763	2m	M5	2/1	-	7,5 (8,5)	12 (14)	16,5 (19)	22,5 (26)	28,5 (33)	34,5 (39,5)	-	6 6/1,5	9 9/1,5
	MT 732	2m	M5	4/1	-	-	-	8 (9,5)	11 (13)	14 (16,5)	17 (19,5)	-	4 4/1	6 6/1
16000	MT740	2m	M5	4/1	-	-	-	8 (9,5)	11 (13)	14 (16,5)	17 (19,5)	-	4 4/1	6 6/1
20000	MT 750	2m	M5	4/1	-	-	-	8 (9,5)	11 (13)	14 (16,5)	17 (19,5)	19,5 (23)	4 4/1	6 6/1
25000	MT763	2m	M5	4/1	-	-	-	8 (9,5)	11 (13)	14 (16,5)	17 (19,5)	19,5 (23)	3 3/0,75	4,5 4,5/1,25
32000	MT780	1Am	M4	4/1	-	-	-	6,5	9	11,5	14	16	2 2/0,5	3 3/0,5

¹⁾ The data given in brackets are to be considered for wire ropes with high strength and smaller diameter.

Other special modifications according to different custom made solutions with regards to greater lifting heights, duty groups, lifting or travel speeds and etc. are also possible.

TYPE DESIGNATION



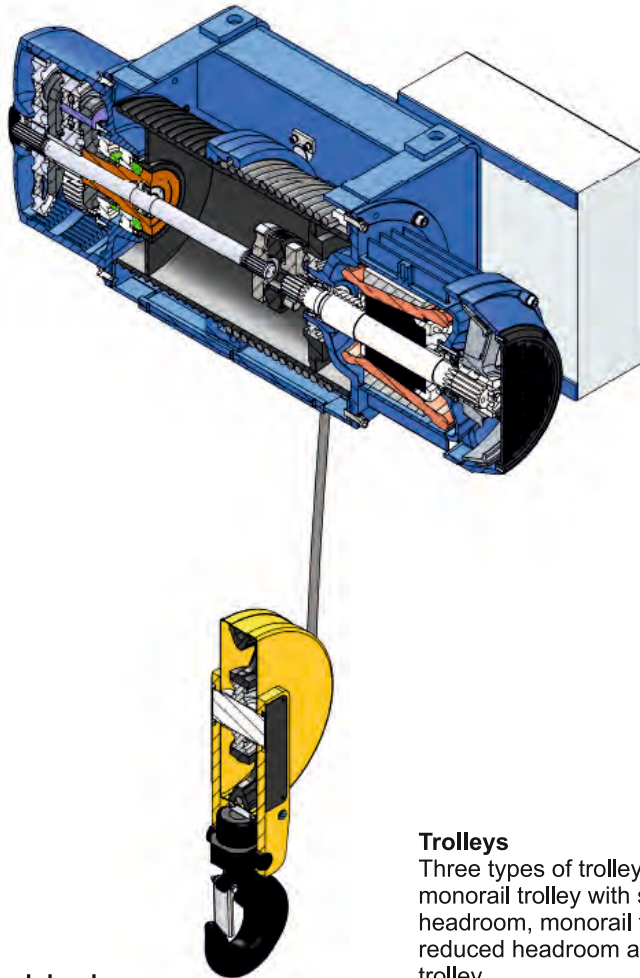
DESIGNATION EXAMPLE 52MT516H12V1-2/1MEN20

- 52 - Load limiter, emergency stop and thermal protection
- MT - Hoist type
- 516 - Size 516, series 500, drum hoisting force 16 kN
- H12 - Lifting height 12 m
- V1 - Lifting speed V1-8 m/min
- 2/1 - Reeving
- M - Microlift
- E - Electric trolley
- N - Monorail trolley – standard headroom
- 20 - Traveling speed 20 m/min

Travelling speeds

Trolley	Speed (m/min)						
	one speed			two speeds			
EN	10	16	20	32	16/4	20/6	32/10
EK	12	16	20	—	12/3	16/4	20/5
ED	10	16	20	30	10/4	16/5	20/6

Description of the electric hoist



Hoisting motor

Electric motor with conical rotor and conical stator as well as asbestos free conical brake. Easy axial moving possibility of the rotor. Reliable brake activation from spiral spring impact in case of electric power breakdown. Creep speed of the motor. The wide range combinations of motors and gear units expand the range of available goods and lifting speeds.

Gear unit

Two-stage heliocentric gear unit assembled to opposite side of the motor. High quality materials are used. Suitable hardening and grinding of gear wheels teeth surfaces ensures their long life, noiseless operation and high coefficient of gear unit's efficiency.

Drum

Equipped with helical grooves for the wire rope and efficacious rope guide, which ensures reliable arrangement of the rope in drum's grooves. The front motor flange by means of ball bearing supports one of the drum's diaphragms. The torque from the gear unit to the second drum's diaphragm is transmitted through grooved hollow shaft.

Rope guide

New made construction. No special tools are required for the replacement of the rope guide. Ensures precise rope winding and unwinding. Possibility for rope deviation $\pm 4^\circ$. Actuates the end limit switch in upper and bottom position of the hook.

Block-hook

The block hook and the purchase block are entirely new constructions, corresponding to the modern technical safety requirements. Ensures easy operation with minimum dead weight. Protection against the rope getting out of the rope rolls is also ensured.

Body

The body is completely new construction in box form. Represents a robust welded construction as a flange connection between the motor and gear unit. Wire rope's outlet in all possible radial directions permits the realization of different assembly versions and positions.

Rubber packed coupler

This is flexible coupler as a joint unit between the hoisting motor and gear unit. The coupler works as a shock - absorber and ensures resistance free motor's shaft axial replacement. Sure connection between the motor and the gear unit is warranted.

Trolleys

Three types of trolleys are available: monorail trolley with standard headroom, monorail trolley with reduced headroom and double rail trolley.

The hoist is hanged up or mounted to the trolley in the best position, ensuring optimum load distribution on the travel wheels. The trolley could be also electric, hand geared or push travel. Drive unit the same type as a main unit of the hoist powers the electric trolley. Normal drive unit with electromagnetic brake is available. The traveling speeds are in very wide range. Stage less fitness in accordance with the width of the monorail traveling track is submitted to correct work of the trolleys. In case of double rail trolley the purchaser gives the rail's distance.

Electric equipment

Power circuit voltage and frequency are at purchaser's request. Control voltage to relays and contactors is 24 or 42V, frequency 50 and 60Hz. The most part of electric equipment is assembled in command box, fastened to the body or to other appropriate part. Terminal box of the motor holds end limit switch.