

## CBE-MBE SERIES ELECTRICALLY ROTATED JIB CRANES

### COLUMNS U-V-Z

## COMPLETION OF THE USE INSTRUCTIONS OF THE MANUAL FOR THE GBA/GBP SERIES JIB CRANES **MAN05MG05**

### INTRODUCTION

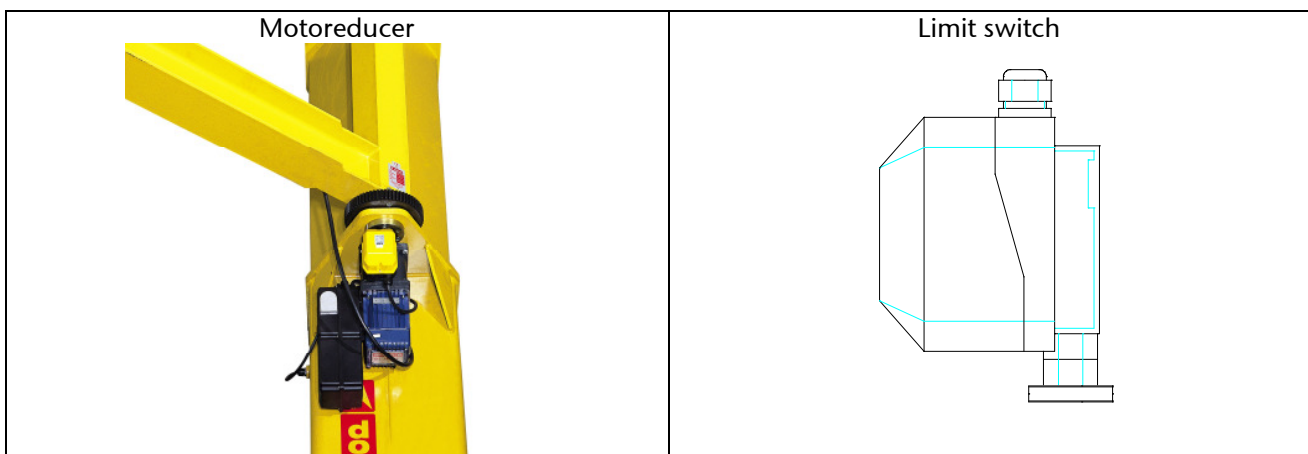
**This technical documentation relating to the CBE-MBE series jib cranes contains updated instructions for installation, use and maintenance for the MAN05MG05 manual, and is an integral part of that manual.**

#### 2.1.3 The composition of the jib cranes ( Page 4 MAN05MG05)

This consists of a motoreducer fixed vertically on the lower part of the support bracket, made up of an epicyclical reducer heat treated, permanently lubricated gear wheels and a conical brake self-braking motor.

The drive sprocket of the motoreducer fits with the toothed crown integral with the arm which it powers. Progressive starting-up and braking are ensured by a frequency inverter powered with alternate monophase current with voltage at 230 V.

The limit switch to limit the rotation of the arm, is of the type with worm screws with 4 contacts. It is fixed to the rotation stop with 3 screws, inserting the drive shaft of the limit switch in the toothed crown of the arm, which powers the rotation. The drive shaft is connected to a structure with 4 cams, which by rotating activate 4 switches which work on the low voltage auxiliary circuit.



#### 2.2.7 Characteristics and technical data (Pages 5-6 )

#### 3.5 Safety measures and instructions (Page 17 MAN05MG05)

##### 3.5.2 safety and emergency devices

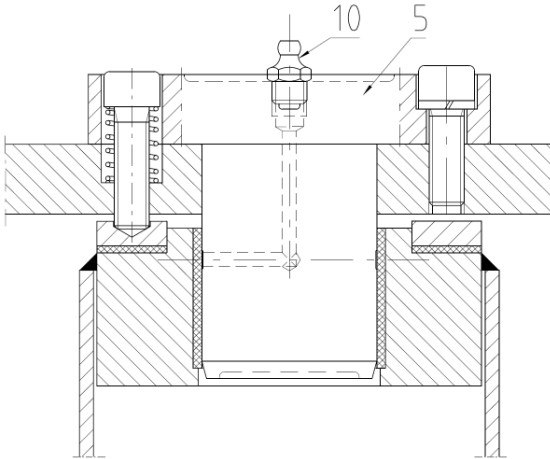
The electric powered jib cranes column type CBE series and wall type MBE series are supplied complete with the following safety and emergency devices:

1. The electric emergency limit switch on the rotation movement has to limit the rotation of the jib.
2. The travel limit switch has to limit the maximum travel of the trolley along the jib.
3. The mechanical actuators (when the jib cranes are supplied complete with electric trolleys), trolleys' limit switches stops
4. The anticollision device, available on request, avoids any crash between 2 or even more jibs operating in a same area, or prevents from any contact or interference with close existing structures.

### 4.3.5 Assembly of the arm (Page 28 MAN05MG05)

#### In the case of crane series CBE-MBE size V-Z integrate at the point 5

- 5.1 Insert into the central hole of the upper side pivots' flange (5), the greaser (10) and introduce the grease with the proper equipment.



Note: Check and grease every three months.

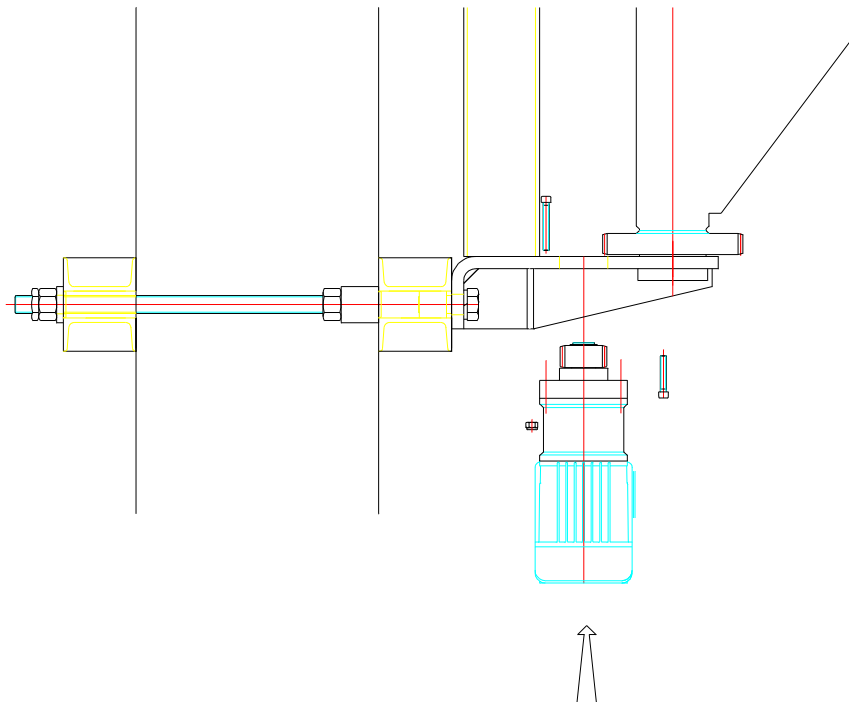
#### 4.3.5.1 Assembly of the motoreducer (Page 28 MAN05MG05)





For the assembly of the motoreducer proceed as follows:



- Insert the motoreducer, with the sprocket already mounted, in the centring hole of the lower plate.
- Align the teeth of the sprocket to the spaces of the crown.
- Insert the 4 TCEI M10 screws in the holes of the flange by positioning the 2 longer screws above the plate, tightening them with their respective self-blocking nuts and then positioning the 2 shorter ones under the plate and screwing them directly to it.
- The clamping couple of the screws must be of 32 Nm.
- Once the electrical connections have been made, check the rotation direction of the arm in both directions and the operation of the limit switch.

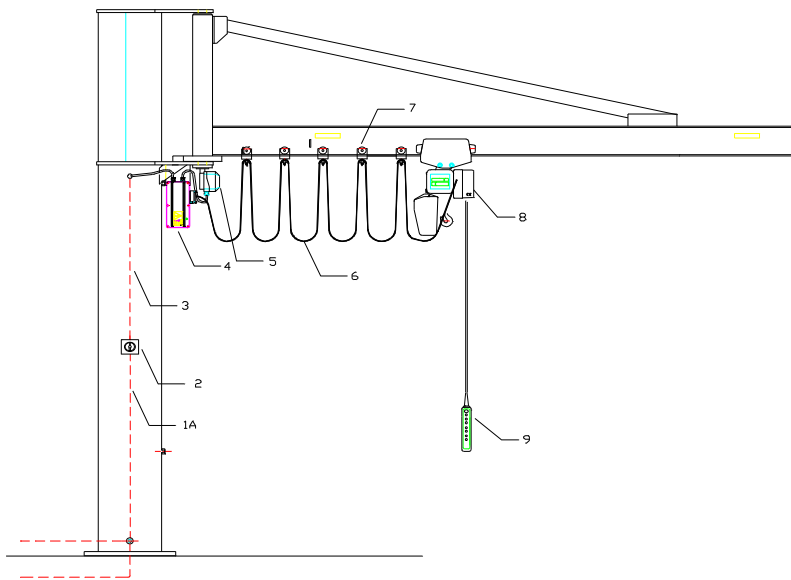


### 4.3.6 Assembly of the electric system (Page 29 MAN05MG05)

	<p>For the assembly of the electric system procede as follows:</p>	
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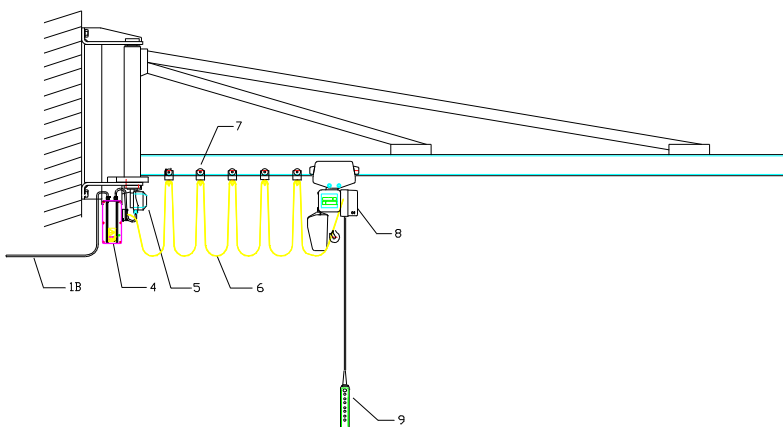
#### In the case of column crane series CBE

- 4) Connect the power cable (3) in the rotation control equipment (4) to the L1-L2-L3-N-EARTH clamps
- 5) Connect the rotation limit switch cable (5) to the clamps corresponding to the wiring diagram.
- 6) Connect the flat festoon (6), power supply to the hoist/trolley, to the clamps corresponding to the wiring diagram.
- 7) Connect the flat festoon cable (6) in the equipment on board the hoist to the clamps corresponding to the wiring diagram.
- 8) To assemble and connect the isolator as shown on page.59 of the MAN05MG01.



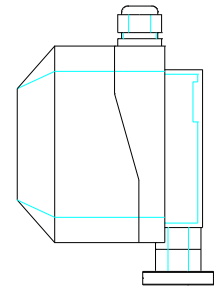
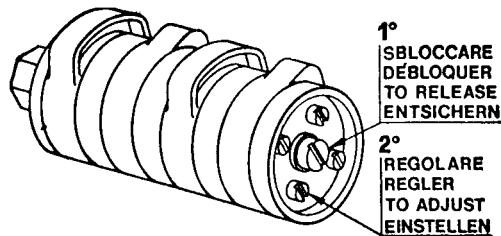
#### In the case of wall crane series MBE

- 4) Connect the power cable (1B) in the rotation control equipment (4) to the clamps L1 – L2 – L3 – N – EARTH.
- 5) Connect the rotation limit switch cable (5) to the clamps corresponding to the wiring diagram.
- 6) Connect the flat festoon cable (6), power supply to the hoist/trolley, to the clamps corresponding to the wiring diagram.
- 7) Connect the flat festoon cable (6) in the equipment on board hoist to the clamps corresponding to the wiring diagram.
- 8) To connect the power cable (1B) to the clamps in the rotation control equipment (4).



#### 4.3.6 PUTTING INTO USE THE ROTATION LIMIT SWITCH

Operate as follows:



#### Function of the contacts:

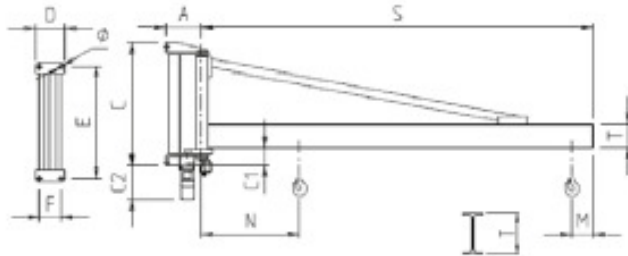
SQ5A = RIGHT rotation service limit switch  
SQ6A = LEFT rotation service limit switch  
SQ5B = RIGHT rotation emergency limit switch  
SQ6B = LEFT rotation emergency limit switch

#### Adjusting the contacts:

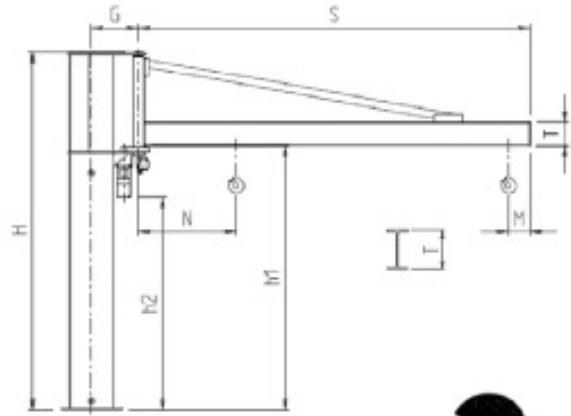
- 1) Adjust the cam related to the SQ5B emergency contact immediately after the operation on the Adjust the cam related to the SQ5A contact to limit the rotation to the RIGHT, as required. SQ5A contact.
- 2) Adjust the cam related to the SQ6A contact to limit the rotation to the LEFT, as required. Adjust the cam related to the SQ6B emergency contact immediately after the operation on the SQ6A contact.

Note: the operation on the emergency limit switch contacts blocks the functioning of the whole machine. To activate an emergency operation, once the cause is identified, it is necessary to operate on the limit switch, releasing momentarily the cam of the contact in question. Get out of the anomalous position with the opposite control to that of the operation. Restore the original position of the contacts.

# MBE/CBE SERIES JIB CRANES – H VERSION – MOTORISED ARM OVERBRACED VERSION



Wall-mounted jib crane - Rotation 290°



Column-mounted jib crane - Rotation 280°

LIFTING CAPACITY kg	ARM S m	SIZE OF JIB CRANE	TYPE	MBE SERIES WALL-MOUNTED JIB CRANE - H VERSION - MOTORISED ARM OVERBRACED VERSION												ARM SPEED		MOTOR POWER kW	WEIGHT JIB CRANE kg
				OVERALL DIMENSIONS (mm)												NO. OF REVOLUTIONS R.P.M.	PERIPHERAL m/min		
				A	B	C	C1	C2	D	E	F	G	M	N	T (IPE)				
250	6	D	EH02D60	340	778	930	152	378	250	870	190	22	190	1080	200	0.6	23	0.4	258
	7	D	EH02D70	340	778	930	152	378	250	870	190	22	190	1200	*152	0.6	26	0.4	340
	8	E	EH03E80	365	1058	1240	182	348	300	1160	220	34	190	1210	*152	0.6	30	0.4	497
500	4	D	EH02D40	340	778	930	152	378	250	870	190	22	190	960	200	1	25	0.4	207
	5	D	EH02D50	340	778	930	152	378	250	870	190	22	190	1020	200	0.8	25	0.4	233
	6	E	EH03E60	365	1058	1240	182	348	300	1160	220	34	190	1090	200	0.6	23	0.4	334
	7	E	EH03E70	365	1058	1240	182	348	300	1160	220	34	190	1210	*152	0.6	26	0.4	451
1000	8	F	EH03F80	365	1058	1240	182	348	300	1160	220	34	190	1210	*152	0.6	30	0.4	497
	4	E	EH03E40	365	1058	1240	182	348	300	1160	220	34	190	970	200	1	25	0.4	272
	5	E	EH03E50	365	1058	1240	182	348	300	1160	220	34	190	1030	200	0.8	25	0.4	304
	6	F	EH03F60	365	1058	1240	182	348	300	1160	220	34	190	1090	240	0.6	23	0.4	384
1600	7	F	EH03F70	365	1058	1240	182	348	300	1160	220	34	190	1210	*152	0.6	26	0.4	451
	8	F	EH03F85	365	1058	1240	182	348	300	1160	220	34	190	1210	*152	0.6	30	0.4	497
	6	F	EH03F67	365	1058	1240	182	348	300	1160	220	34	210	1170	*152	0.6	23	0.4	420
2000	4	F	EH03F40	365	1058	1240	182	348	300	1160	220	34	210	990	240	0.8	20	0.4	306
	5	F	EH03F50	365	1058	1240	182	348	300	1160	220	34	210	1050	240	0.6	20	0.4	344

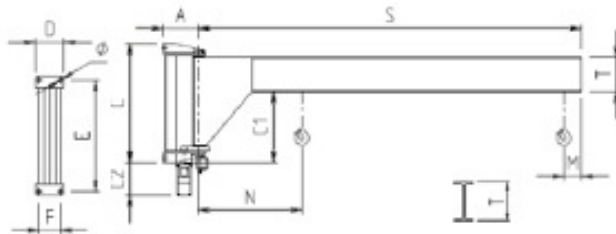
\* Profiled girder type HEA160

LIFTING CAPACITY kg	ARM S m	SIZE OF JIB CRANE	HEIGHT H mm		TYPE	CBE SERIES COLUMN-MOUNTED JIB CRANE - H VERSION - MOTORISED ARM OVERBRACED VERSION							ARM SPEED		MOTOR POWER kW	WEIGHT		
			BASE	MAX.		OVERALL DIMENSIONS (mm)							NO. OF REVOLUTIONS R.P.M.	PERIPHERAL m/min		JIB CRANE kg	COLUMN BY m kg	
						U1	U2	G	M	N	T (IPE)	Δ						
250	6	U	3.5	5.5	EH35U60	2780	2250	436	190	1080	200	17		0.6	23	0.4	420	43.5
	7	U	3.5	5.5	EH35U70	2780	2250	436	190	1200	*152	17		0.6	26	0.4	507	43.5
	8	V	4	6	EH40V80	3022	2492	463	190	1210	*152	20		0.6	30	0.4	765	64
500	4	U	3.5	5.5	EH35U40	2780	2250	436	190	960	200	17		1	25	0.4	370	43.5
	5	U	3.5	5.5	EH35U50	2780	2250	436	190	1020	200	17		0.8	25	0.4	395	43.5
	6	V	4	6	EH40V60	3022	2492	463	190	1090	200	20		0.6	23	0.4	600	64
	7	V	4	6	EH40V70	3022	2492	463	190	1210	*152	20		0.6	26	0.4	720	64
1000	8	Z	4	6	EH40Z80	3022	2492	513	190	1210	*152	20		0.6	30	0.4	850	75.2
	4	V	4	6	EH40V40	3022	2492	463	190	970	200	20		1	25	0.4	538	64
	5	V	4	6	EH40V50	3022	2492	463	190	1030	200	20		0.8	25	0.4	570	64
	6	Z	4	6	EH40Z60	3022	2492	513	190	1090	240	20		0.6	23	0.4	737	75.2
1600	7	Z	4	6	EH40Z70	3022	2492	513	190	1210	*152	20		0.6	26	0.4	805	75.2
	8	Z	4	6	EH40Z85	3022	2492	513	190	1210	*152	20		0.6	30	0.4	850	75.2
	6	Z	4	6	EH40Z67	3022	2492	513	210	1170	*152	20		0.6	23	0.4	767	75.2
2000	4	Z	4	6	EH40Z40	3022	2492	513	210	990	240	20		0.8	20	0.4	660	75.2
	5	Z	4	6	EH40Z50	3022	2492	513	210	1050	240	20		0.6	20	0.4	697	75.2

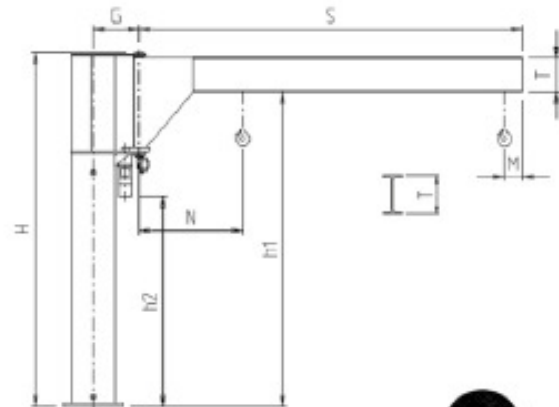
\* Profiled girder type HEA160



# MBE/CBE SERIES JIB CRANES – T VERSION – MOTORISED ARM CANTILEVER VERSION



Wall-mounted jib crane - Rotation 290°



Column-mounted jib crane - Rotation 280°

LIFTING CAPACITY kg	ARM S m	SIZE OF JIB CRANE	TYPE	MBE SERIES WALL-MOUNTED JIB CRANE - T VERSION - MOTORISED ARM IN CANTILEVER VERSION													ARM SPEED		MOTOR POWER kW	WEIGHT JIB CRANE kg
				OVERALL DIMENSIONS (mm)													NO. OF REVOLUTIONS R.P.M.	PERIPHERAL m/min		
				A	B	C	C1	C2	D	E	F	Ø	M	N	T (PE)					
500	4	D	ET02D40	340	406	930	524	378	250	870	190	22	190	910	300	1	25	0.4	313	
	5	D	ET02D50	340	406	930	524	378	250	870	190	22	190	970	300	0.8	25	0.4	355	
	6	E	ET03E60	365	500	1240	740	348	300	1160	220	34	190	1080	360	0.6	23	0.4	574	
	7	E	ET03E70	365	540	1240	700	348	300	1160	220	34	190	1270	400	0.6	26	0.4	680	
1000	2	D	ET02D20	340	406	930	524	378	250	870	190	22	190	850	300	1.6	20	0.4	229	
	3	D	ET02D30	340	406	930	524	378	250	870	190	22	190	910	300	1.2	23	0.4	271	
	4	E	ET03E40	365	500	1240	740	348	300	1160	220	34	190	970	360	1	25	0.4	456	
	5	E	ET03E50	365	500	1240	740	348	300	1160	220	34	190	1030	360	0.8	25	0.4	514	
1600	6	F	ET03F60	365	500	1240	740	348	300	1160	220	34	190	1080	360	0.6	23	0.4	574	
	6	F	ET03F67	365	590	1240	650	348	300	1160	220	34	210	1200	450	0.6	23	0.4	714	
2000	2	E	ET03E20	365	500	1240	740	348	300	1160	220	34	210	930	360	1.6	20	0.4	341	
	3	E	ET03E30	365	500	1240	740	348	300	1160	220	34	210	990	360	1.2	23	0.4	399	
	4	F	ET03F40	365	540	1240	700	348	300	1160	220	34	210	1080	400	0.8	20	0.4	508	
	5	F	ET03F50	365	590	1240	650	348	300	1160	220	34	210	1130	450	0.6	20	0.4	635	

LIFTING CAPACITY kg	ARM S m	SIZE OF JIB CRANE	HEIGHT H mm		TYPE	CBE SERIES COLUMN-MOUNTED JIB CRANE - T VERSION - MOTORISED ARM IN CANTILEVER VERSION										ARM SPEED		MOTOR POWER kW	WEIGHT JIB CRANE kg	WEIGHT COLUMN BY m kg
			BASE	MAX.		OVERALL DIMENSIONS (mm)					T (PE)	Δ	NO. OF REVOLUTIONS R.P.M.	PERIPHERAL m/min						
			h1	h2		G	M	N												
500	4	U	3.5	5.5	ET35U40	3152	2250	436	190	910	300	17	1	25	0.4	476	43.5			
	5	U	3.5	5.5	ET35U50	3152	2250	436	190	970	300	17	0.8	25	0.4	518	43.5			
	6	V	4	5	ET40V60	3580	2492	463	190	1080	360	20	0.6	23	0.4	840	64			
	6	Z	4	6	ET40Z65	3580	2492	513	190	1080	360	20	0.6	23	0.4	927	75.2			
	7	V	4	4	ET40V70	3540	2452	463	190	1270	400	20	0.6	26	0.4	945	64			
	7	Z	4	6	ET40Z75	3540	2452	513	190	1270	400	20	0.6	26	0.4	1032	75.2			
1000	2	U	3.5	5.5	ET35U20	3152	2250	436	190	850	300	17	1.6	20	0.4	392	43.5			
	3	U	3.5	5.5	ET35U30	3152	2250	436	190	910	300	17	1.2	23	0.4	434	43.5			
	4	V	4	6	ET40V40	3580	2492	463	190	970	360	20	1	25	0.4	722	64			
	5	V	4	6	ET40V50	3580	2492	463	190	1030	360	20	0.8	25	0.4	780	64			
2000	6	Z	4	6	ET40Z60	3580	2492	513	190	1080	360	20	0.6	23	0.4	927	75.2			
	2	V	4	6	ET40V20	3580	2492	463	210	930	360	20	1.6	20	0.4	607	64			
	3	V	4	6	ET40V30	3580	2492	463	210	990	360	20	1.2	23	0.4	665	64			
	4	Z	4	6	ET40Z40	3540	2492	513	210	1080	400	20	0.8	20	0.4	832	75.2			