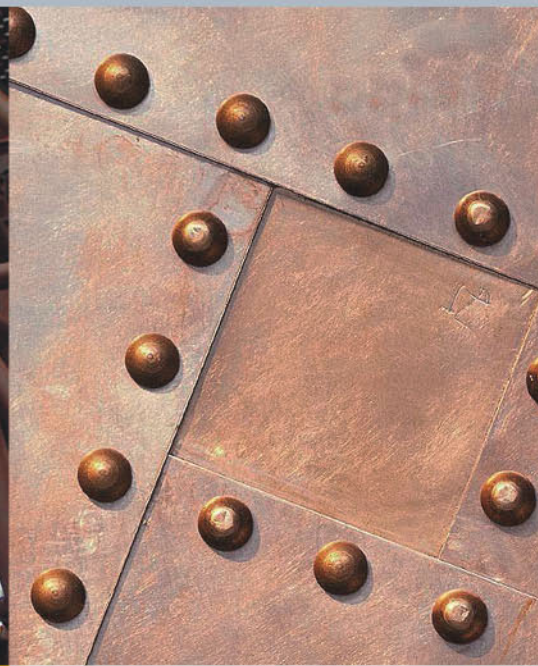




UPETROM
1 MAI - PLOIEȘTI
member of UPETROM GROUP

EQUIPMENTS

FOR OIL AND GAS DRILLING RIGS



SC UPETROM - 1 MAI SA
1ST December 1918 Square No. 1
Ploiesti, Prahova County, Romania
Phone: +40 244 501 501
+40 244 501 502
Fax: +40 244 501 503
www.upetrom1mai.com
office@upetrom1mai.com

DRAWWORKS

The drawworks is an integrant part of the drilling rig and represents the main element of the hoisting system. Depending on its place of installation (either on the working floor or at a lower level), the drawworks works along with a cathead shaft, a sand drum, a gear box, a separate or integral rotary table drive unit or it does not include them. If equipped with one or two drums, the drawworks will also be provided with an auxiliary hydromatic or electromagnetic brake coupled to the drum shaft through a free running coupling; the said auxiliary brake belongs to the drawworks assembly as well the mechanical one does.

An inertia brake attached to one of the drawworks shaft provides protection to the clutch jaws as well as safe and fast shifting of the jaw clutches when the speed is shifted. The drawworks assembly is also equipped with an automatic bit feeding device (either pneumatically or hydraulically operated), a block travel limiter and a grooved wrapper permitting the line to be correctly wound. See the drawworks specifications as shown below.

Specifications	UM	Type										
		TF-68EU	TF55	TF55E	TF44	TF44E	TF38	TF38E	TF25	TF25E	TFI20	TFI15
Max. Input power	HP	3,500	3,000	3,000	3,000	3,000	2,000	2,300	1,350	1,600	700	400
Max. Line pull	metric t	62	55	55	44	44	38	38	25	25	20	15
	ton	68	61	61	49	49	42	42	28	28	22	17
Hoisting speeds	-	4 + 4R	4 + 2R	4 + 4R	4 + 2R	4 + 4R	4 + 2R	4 + 2R	2 + 2R	4 + 4R	2 + 1R	2 + 1R
Line size	mm	42	38	38	35	35	35	35	32	32	28	25
Aux. Brake type	-	FE1900	FE1900	FE1900	FH60	FE1700	FH60	FE1400	FH46	FE1400	FH560	FH560
Max. Hoisting speed	m/s	20	22	20	22	19.6	22	23	20	20	20	20
Weight	kg	50,200	46,600	46,600	35,900	37,790	33,282	32,591	24,000	28,287	8,000	7,500

ROTARY TABLES

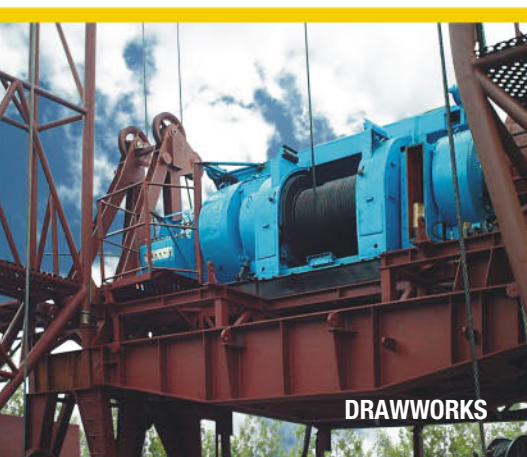
UPETROM manufactures the complete range of rotary tables covering the modern drilling requirements; thus, their opening values range between 17.1/2 in (444.5 mm) and 49.1/2 in (1,257.3 mm).

The main specifications of the **UPETROM**-made rotary tables are the following:

- rectangular-shape cradle simplifying the substructure design and providing optimum working conditions on the working floor;
- chain or cardan-shaft transmission;
- latch mechanism for locking the rotor to the right or both directions;
- splashing lubrication of all bearings and gears;
- smooth operation of the bevel gearing, whose gears are fabricated from superficially heat-treated high-alloyed steels whose quality provides a long operational life;
- efficient sealing to mud and oil;

- rotor sealed by labyrinth flanges and geared-shaft sealed by rubber gaskets;
- possibility of retrieval for the geared-shaft assembly;
- dimensions of the square master bushings, square drive bushings and input-shaft head in accordance with the API Spec.7A requirements;
- axial-radial bearings.

Type	Opening	Static load		Input power	Max. Speed
	in	mton(tf)	tons	HP	rpm
MRL-495	49.1/2	800	880	1,150	250
MRL-375	37.1/2	650	715	600	250
MRL-275	27.1/2	500	550	600	300
MRL-205	20.1/2	320	350	500	300
MRS-205	20.1/2	320	350	500	300
MRL-175	17.1/2	250	275	350	300
MRS-175	17.1/2	250	275	350	300



DRAWWORKS



ROTARY TABLES

HOOK BLOCKS

Parallel springs to sustain the drill string and make the bolt come out of the box (the threaded connection is thus protected when the tool joint is broken out); high bearing capacity; high-capacity sheave bearings having conical rollers to provide the sheaves with the necessary space for avoiding the use of disks or washers; line grooves machined according to the API requirements and hardened on their surfaces for everlasting; quenched-and-tempered forged alloy steel; central pin holed to provide the individual lubrication of each bearing.

- MC-type hook blocks whose max. hook load values range between 100 t (110 sht) and 500 t (550 sht).
- MCA-type hook blocks, whose max. hook load is 500 t (550 sht) and which are directly coupled, thus permitting both-way motion parallel and perpendicular to the locking bolt and perpendicular to any face along the vertical axis.
- MCm-type hook blocks featuring three values of the max. hook load, as follows: 250 t (275 sht), 450 t (500 sht), 320 t (350 sht) and having features due to the Mt new type of blocks and CPt hooks.

Type	Max. Working Load		Sheaves		Line Diameter	
	mton(tf)	tons	No.	mm	mm	in
MCA						
6.38.1500.MCA-500	500	550	6	1,500	38	1.½
6.35.1400.MCA-500	500	550	6	1,500	35	1.¾
MC						
6.35.1400.MC-400	400	440	6	1,400	35	1.¾
5.35.1400.MC-400	400	440	5	1,400	35	1.¾
5.32.1250.MC-300	300	330	5	1,250	32	1.¼
5.32.1100.MC-200	200	220	5	1,100	32	1.¼
4.28.1100.MC-200	200	220	4	1,100	28	1.½
4.28.750.MC-136	136	150	4	750	28	1.½
4.28.750.MC-125	125	138	4	750	28	1.½
4.25.750.MC-125	125	138	4	750	25	1
4.25.560.MC-100	100	110	4	560	25	1
MCm						
6.35.1400.MCm-500	500	550	6	1,400	35	1.¾
5.32.1250.MCm-350	320	350	5	1,250	32	1.¼
5.32.1120.MCm-250	225	250	5	1,120	35	1.¾



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HOOK BLOCKS

CROWN BLOCKS

The crown blocks are available for 10 max. values of the hook load and designed for being used either with MC-, MCA-, MCm-type hook blocks or with travelling blocks having the same working-load of the hook. The crown block shaft is made of quenched-and-tempered forged alloy-steel and permits the individual lubrication of each bearing.

Type	Max. Working load		Sheaves		Line diameter	
	mton (tf)	tons	No.	mm	mm	in
9.48.1830.GF-910	910	1,000	9	1,830	48	1.7 ⁵ / ₈
7.38.1500.GF-650	590	650	7	1,500	38	1.1 ¹ / ₂
7.38.1500.GF-500	500	550	7	1,500	38	1.1 ¹ / ₂
(6+1).35.1400.GF-500	500	550	6	1,400	35	1.3 ³ / ₈
			1	1,650		
7.35.1400.GF-500	500	550	7	1,400	35	1.3 ³ / ₈
7.35.1400.GF-400	400	440	7	1,400	35	1.3 ³ / ₈
6.35.1400.GF-400	400	440	6	1,400	35	1.3 ³ / ₈
6.35.1250.GF-300	300	330	6	1,250	35	1.3 ³ / ₈
(5+1).28.1016.GF-200	200	220	6 (5+1)	1,016	28	1.1 ¹ / ₈
5.28.1100.GF-200	200	220	5	1,100	28	1.1 ¹ / ₈
6.28.1100.GF-200	200	220	6	1,100	28	1.1 ¹ / ₈
6.32.1100.GF-200	200	220	6	1,100	32	1.1 ¹ / ₄
6.32.1250.GF-200	300	330	6	1,250	32	1.1 ¹ / ₄
(4+2).28.750.GF-136	136	150	6 (4+2)	750	28	1.1 ¹ / ₈
(4+2).28.750.GF-125	125	138	6 (4+2)	750	28	1.1 ¹ / ₈
(4+2).25.560.GF-100	100	110	6 (4+2)	560	25	1



CROWN BLOCKS



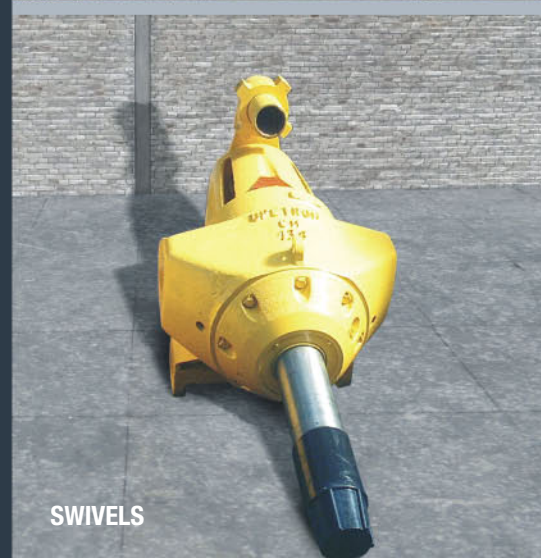
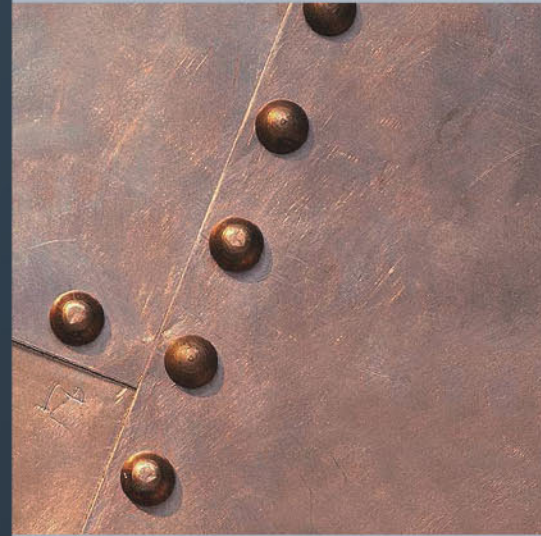
CROWN BLOCKS

SWIVELS

UPETROM manufactures a series of swivels whose static load values range between 32 t (35 sht) and 680 t (750 sht). The above specified swivels are highly advantageous from several points of view, such as:

- long life provided by the quality of the materials and the heat-treatment cycles;
- a main axial taper-roller bearing that takes over heavy loads and has reduced dimensions;
- the wash pipe sealing system can be laterally taken out and provides quick replacement of the wash pipe and seals when they are heated;
- the swivels are delivered with subs connecting with the kellys.

Type	Max. Static Load		API Bearing Load		Max. Pressure		Threaded Connection Sizes	
	mton(tf)	tons	mton(tf)	tons	bar	psi	Goose-Neck	Sub
CH-750	680	750	431	475	350	5,000	4 LP	8.5 ⁵ / ₈ REG-LH
CH-650	650	715	431	475	320	4,640	4 LP	6.5 ⁵ / ₈ REG-LH
CH-500	500	550	365	400	350 500	5,000 7,500	4 LP	6.5 ⁵ / ₈ REG-LH
CH-400	400	440	210	230	300 500	4,300 7,500	4 LP	6.5 ⁵ / ₈ REG-LH
CH-320	320	350	153	167	300 500	4,300 7,500	3 LP	6.5 ⁵ / ₈ REG-LH
CH-200	200	220	125	138	210	3,000	4 LP	6.5 ⁵ / ₈ REG-LH
CH-136	136	150	108	119	210	3,000	4 LP	6.5 ⁵ / ₈ REG-LH
CH-125	125	138	88.8	94	210	3,000	3 LP	6.5 ⁵ / ₈ REG-LH
CH-80	80	88	77	85	210	3,000	3 LP	6.5 ⁵ / ₈ REG-LH
CH-50	50	55	28	31	210	3,000	TE 70-2.1 ¹ / ₂ LP	3.1 ¹ / ₂ REG-LH
CH-32	32	35	25	27	140	2,000	3 LP	4.1 ¹ / ₂ REG-LH



SWIVELS