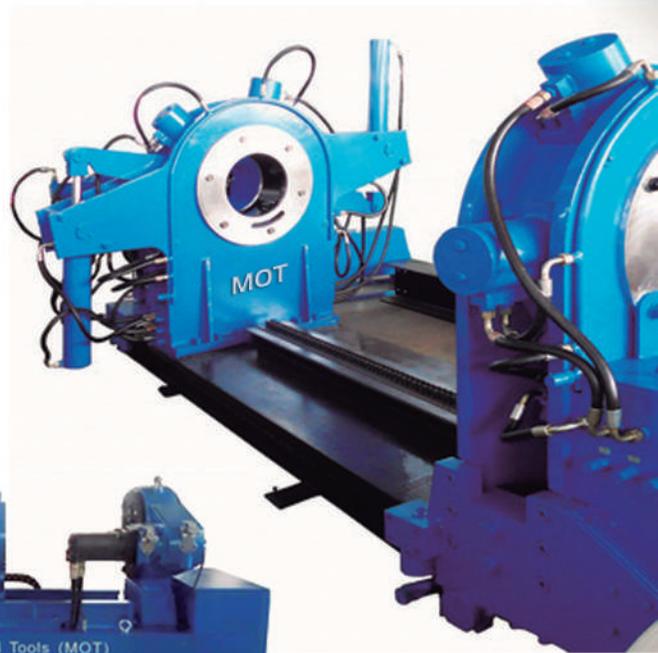
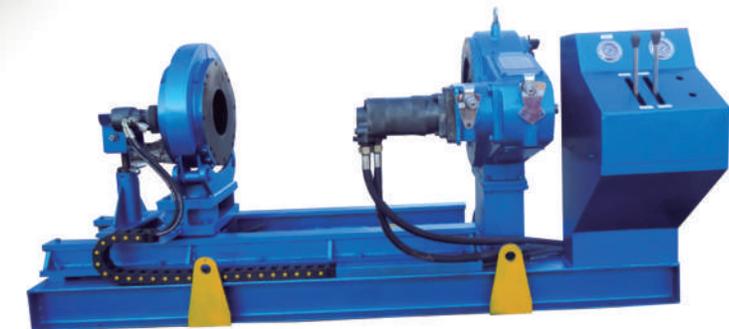


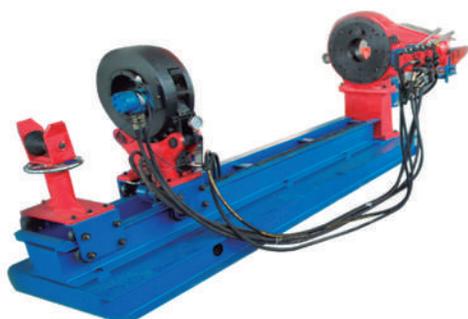
BUCKING UNITS



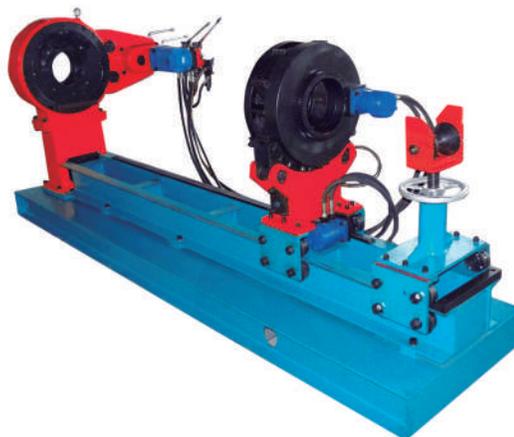
MINI FULLY ROTATIONAL (MFRC) BUCKING UNIT STATIONARY / PORTABLE / MOBILE

MOT Mini Bucking Units (MFRC) are designed for simple and economical makeup and breakout of threaded connections of up to 11,050 Ft-Lbs. and 7-5/8" OD. These units cater for the assembly and disassembly of completion tubing, completion assemblies, thru-tubing assemblies, downhole pumps, downhole tools, casing and other threaded joints.

Our Mini Bucking Units consists of a light weight compact and portable structure that supports a headstock and a traveling tailstock with hydraulically controlled motors connected directly to the manually operated control valve.



Model:
MFRC-762515



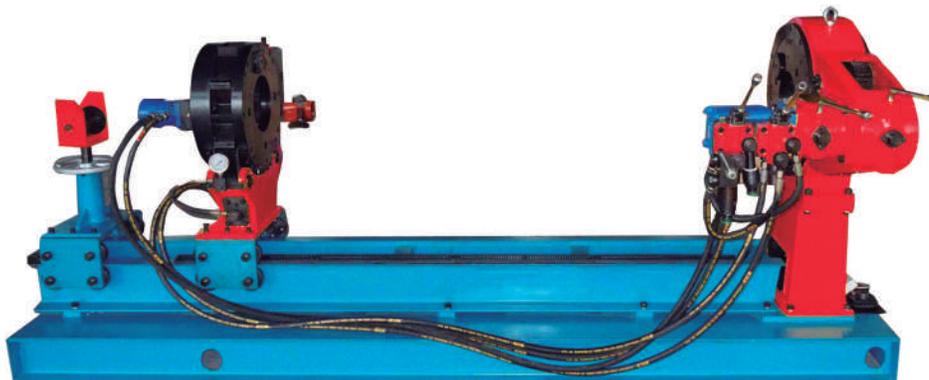
SÓLO NK:
Torque Control Console

FEATURES:

- ✓ Continuous Gear Drive Rotation.
- ✓ Easy and safe to operate.
- ✓ Four (4) jaw planetary system on both headstock and tailstock.
- ✓ By-directional jaw system; change from make to break with a flip of a knob.
- ✓ Heads are driven by low speed hydraulic motors.
- ✓ Headstock and tailstock are connected hydraulically in parallel, clamping force is achieved simultaneously.
- ✓ Four (4) speed drive provides for wider torque ranges.
- ✓ Multiple power unit options: Electric / Diesel.
- ✓ Computerized SÓLO NK torque turn system available as an option.
- ✓ Optional Head and Tailstock beam extensions to achieve desired lengths.
- ✓ Portable assembly machinery for your mobile applications

TYPICAL MOBILE EQUIPMENT PACKAGE:

- (1) MFRC-762515 hydraulic mobile bucking machine.
- (1) SÓLO NK Torque Turn System and Control Stand.
- (1) Electric Hydraulic power unit.
- (1) Diesel Hydraulic power unit (when one is required).
- (1) Electric Generator for 110/220 Volt Supply.
- (1) Weather-Proof canopy for personnel and asset protection.
- (1 Set) Beam Extensions with Support Stands to cover 40ft joint length.
- (2 Set) Pipe Racks for quick transition of 40Ft Joints.
- (1 Set) Hydraulic Hoses (High and Low Pressure).



UNITIZED FULLY ROTATIONAL (UFRC)

BUCKING UNIT

MOT's Unitized Bucking Units (UFRC) are designed for the makeup and breakout of threaded connections of up to 230,000 Ft-Lbs and 30" OD, through 360° continuous rotation. These units cater for the assembly and disassembly of completion tubing, completion assemblies, thru-tubing assemblies, downhole pumps, downhole tools, casing couplings, packer adapters, drilling tools and other threaded joints.

MOT's "UFRC" Bucking Units consist of a fully integrated structure (frame, HPU, oil tank, guide rails, support stand, valves and gauges) that support a headstock and a traveling tailstock with hydraulically controlled motors connected directly to the manually operated control valve. We offer the option of installing our SÓLO NK torque control and monitoring system for connection logging.

OPTIONS & ACCESORIES:

- Computerized SÓLO Torque Control & Monitoring Console.
- Conveyor electric motor driven rollers for faster and safer handling of tools.
- Tool loading and unloading (up & down) system that eliminates cranes.

UFRC SERIES (UNITIZED BUCKIN UNITS)



1. Gauges
2. Hydraulic Power Unit
3. Oil Temp Gauge
4. Support Stand
5. Frame
6. Oil Tank
7. Guide Rail
8. Tail Stock
9. Head Stock
10. Control Console
11. Overflow
12. Pressure Gauges

1 2 3 4 5 6 7 8 9 10 11 12

SELECTION GUIDE UFRC / MFRC(*) SERIES OF BUCKING UNITS



Model		UFRC				
		5500/15	7000/20	8660/30	9450/30	1024/50
Rated Torque	Ft-Lbs	11,030	14,700	22,000	22,000	36,000
	KNm	15	20	30	30	50
Speed	RPM	8-45	5-45	3-29	4-34	4.5-15
	Core Diameter	Inches	6.3	7.87	8.66	9.45
	mm	160	200	220	240	260
	Pipe Range	Inches	1.66"-5 1/2"	2 3/8"-7"	2 7/8"-7 5/8"	2 3/8"-7-3/4"
mm		Φ40-Φ156	Φ60-Φ196	Φ73-Φ216	Φ60-Φ236	Φ60-Φ256
System Pressure	PSI	2030	2030	2030	2030	2320
	Mpa	14	14	14	14	16
Oil Supply	GPM	20	20	20	20	30
	L/Min	76	76	76	76	116
Central Height	Inches	38.6	38.6	39	40.43	45.16
	mm	980	980	990	1027	1147
Total Power	HP	25	25	30	30	30
	KW	18.5	18.5	22	22	22
Unit Dimensions	Inches	138×47.2×50.15	138×47.2×50.15	138×47.2×50.15	138×47.2×50.15	196.85×67×68.9
(L x W x H)	mm	3500×1200×1350	3500×1200×1350	3500×1200×1370	3500×1200×1390	5000×1700×1750
Unit Weight	Lb	6,600	6,600	6,600	7,700	14,300
	Kg	3,000	3,000	3,000	3,500	6,500

Model		UFRC				
		1024/80	1220/80	1496/100	1810/200	2165/200
Rated Torque	Ft-Lbs	60,000	60,000	73,000	147,510	147,510
	KNm	80	80	100	200	200
Speed	RPM	4.5-15	3-10	2.5-7.5	4-10	3.5-8.5
	Core Diameter	Inches	10.24	12.2	14.96	18.11
mm		280	310	380	380	550
Pipe Range	Inches	2 7/8"-9 5/8"	1.66"-9-5/8"	2 3/8"-13 3/8"	2 3/8"-13-3/8"	7"-20"
	mm	Φ73-Φ256	Φ73-Φ306	Φ60-Φ375	Φ60-Φ375	Φ178-Φ540
System Pressure	PSI	2320	2320	2320	4350	3720
	Mpa	16	16	16	30	25.65
Oil Supply	GPM	30	30	30	62	62
	L/Min	116	116	116	237	237
Central Height	Inches	45.16	45.16	45.16	46.46	48
	mm	1020	1040	1147	1180	1220
Total Power	HP	30	30	30	50	50
	KW	22	22	22	37	37
Unit Dimensions	Inches	196.85×67×68.9	196.85×67×68.9	214.96×87.8×69.69	214.96×87.8×69.69	214.96×93.6×75.24
(L x W x H)	mm	5000×1700×1750	5000×1700×1750	5460×2230×1770	5460×2230×1770	5460×2377×1911
Unit Weight	Lb	14,300	14,900	18,700	21,560	23,100
	Kg	6,500	6,800	8,500	9,800	10,500

(*) HYDRAULIC POWER UNIT OFFERED SEPARATE. BASE UNIT WEIGHT AND DIMENSIONS WILL DEFER FROM THOSE ON THE SELECTION GUIDE.

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FULLY ROTATIONAL CONTINUOUS (FRC) BUCKING UNIT

Our Fully Rotational Continuous (FRC) bucking units are designed for fast and accurate makeup/breakout of threaded connections on oilfield tubular components such as oil and gas drilling and completion tools, casing, tubing and similar components.

The basic unit consists of a frame system that supports a headstock and a traveling tailstock with hydraulically controlled cylinders able to clamp from 2-3/8" to 24" connections. These machines can handle maximum torques of up to 150,000 ft-lb.

Our Model FRC bucking unit is safely and efficiently operated by one person. The hydraulic control console can be wired to suit every type of power supply. The hydraulic system operates at low working pressures which eliminates the need for high pressure hoses and end connections.



FEATURES:

- ✓ Continuous Gear Drive Rotation.
- ✓ Safe and easy to use.
- ✓ Self - centering cylinders distribute forces evenly preventing thread damage.
- ✓ Floating Tailstock compensates for bending and shearing forces during makeup or breakup.
- ✓ Only one set of jaws covers all pipe ranges for units with Max torques of 50,000 Ft-Lb, some higher torque units will require only two sets of jaws. This enhances safety and saves time when changing pipe sizes.
- ✓ Computerized torque control system with remote support.
- ✓ Fully customizable units.
- ✓ Full 12-month warranty.



OPTIONS AND ACCESSORIES:

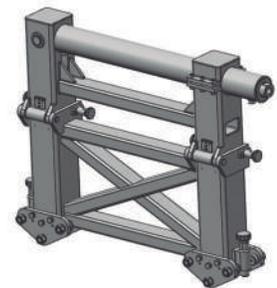
- ✓ Top-open Tailstock for safe, efficient loading and unloading of tools.
- ✓ Non-Marking soft jaws for Chrome connections (Up to 18,500 Ft-Lb).
- ✓ Frame Length: most common is 10 Ft. Other lengths are available.
- ✓ Head and Tailstock beam extension: achieve any length as required.
- ✓ Hydraulic support stands.
- ✓ Hydraulic Push/Pull Assembly: 48" stroke push/pull cylinder capable of 39,000 Ft-Lb. "Push" and 22,500 Ft-Lb. "Pull".



Extension Beam



Hydraulic Stand



Push & Pull Assy.



FULLY ROTATIONAL CONTINUOUS MAKE-AND-BREAK UNIT (FRC) SELECTION GUIDE

Model	FRC-350015	FRC-762525	FRC-962540	FRC-1337555
Pipe Range	2-3/8" - 3-1/2"	2-3/8" - 7-5/8"	2-3/8" - 9-5/8"	2-3/8" - 13-3/8"
Low Gear Torque	10,725 Ft-Lb / (15KN.m)	17,875 Ft-Lb / (25KN.m)	28,600 Ft-Lb / (40KN.m)	39,320 Ft-Lb / (55KN.m)
High Gear Torque	5,005 Ft-Lb / (7KN.m)	8,580 Ft-Lb / (12KN.m)	14,300 Ft-Lb / (20KN.m)	14,300 Ft-Lb / (28KN.m)
Low Gear Speed	11 RPM	10 RPM	8 RPM	6 RPM
High Gear Speed	50 RPM	30 RPM	16 RPM	12 RPM
Oil Supply	20-30 GPM / (80-120 L/Min)			
System Pressure	1,740 Psi / (12Mpa)	2,320 Psi / (16Mpa)	2,320 Psi / (16Mpa)	2,320 Psi / (16Mpa)
Base Unit Dimension (L x W x H)	118*47*47" / (3000*1200*1200mm)	118*47*59" / (3000*1200*1500mm)	118*45*73" / (3000*1140*1850mm)	118*45*76" / (3000*1140*1930mm)
Base Unit Weight	6,600 Lbs / (3,000 Kg)	7,275 Lbs / (3,300 Kg)	8,815 Lbs / (4,000 Kg)	11,020 Lbs / (5,000 Kg)
Console Dimensions (L x W x H)	59*47*47" / (1500*1200*1200mm)	59*47*47" / (1500*1200*1200mm)	59*47*47" / (1500*1200*1200mm)	59*47*47" / (1500*1200*1200mm)

Model	FRC-200070	FRC-1337570	FRC-180140	FRC-180265
Pipe Range	2-3/8" - 20"	2-3/8" - 13-3/8"	2-3/8" - 18"	2-3/8" - 18"
Low Gear Torque	50,000 Ft-Lb / (70KN.m)	50,000 Ft-Lb / (70KN.m)	100,600 Ft-Lb / (140KN.m)	190,000 Ft-Lb / (265KN.m)
High Gear Torque	25,000 Ft-Lb / (35KN.m)	10,000 Ft-Lb / (14KN.m)	14,300 Ft-Lb / (20KN.m)	4,000 Ft-Lb / (6KN.m)
Low Gear Speed	4 RPM	4 RPM	3-8 RPM	3-8 RPM
High Gear Speed	10 RPM	10 RPM	8-12 RPM	8-12 RPM
Oil Supply	20-30 GPM / (80-120 L/Min)			
System Pressure	2,320 Psi / (16Mpa)			
Base Unit Dimension (L x W x H)	157*55*98" / (4000*1400*2480mm)	118*49*83" / (3000*1250*2100mm)	118*55*63" / (3000*1400*1600mm)	118*55*87" / (3000*1400*2200mm)
Base Unit Weight	13,200 Lbs / (6,000 Kg)	11,020 Lbs / (5,000 Kg)	11,460 Lbs / (5,200 Kg)	12,345 Lbs / (5,650 Kg)
Console Dimensions (L x W x H)	59*47*47" / (1500*1200*1200mm)	59*47*47" / (1500*1200*1200mm)	59*47*47" / (1500*1200*1200mm)	59*47*47" / (1500*1200*1200mm)

FULLY CUSTOMIZED MODELS FROM 2-3/8" TO 24" UP TO 150,000 FT-LBS. (210KN.m) MAX. TORQUE - UPON REQUEST.

WARRANTY TERMS

Midland Oil Tools & Services, INC (MOT) - Torque Machines / Bucking Units are warranted free of material and workmanship defects for a period of twelve (12) months from the date of installation. Installation must be carried out by a MOT Technician. Expendable / Consumable items are not covered by this warranty.

WARRANTY COVERAGE – 12 MONTHS PARTS & LABOR