

DYNOMAX

Shock Subs

DYNOMAXTM
DRILLING
TOOLS INC.



DYNOMAX supplies
leading performance drilling products
engineered for the oil and gas industry.

We provide high value products and services for vertical, directional and horizontal drilling operations worldwide.

Our product lines include Mud Motors, Shock Subs, Drilling Jars and Slide Reamers, which bear our industry-leading technologies backed by experience in the field—tools that are built for extended uses. Our QA/QC Program ensures that every tool meets or exceeds expectations in the field.

THE CHALLENGE

During drilling operations, the drill bit imparts various dynamic impact loads to the drill string. These loads are cyclical in nature and can lead to premature failure of the drill string & rig equipment, and lead to low ROP & hole problems. These translate into higher drilling costs.

THE ANSWER

DYNOMAX Drilling Tools' Shock Sub is designed to absorb and dampen the variable axial dynamic loads produced by the drill bit during "normal" drilling operations, by interrupting the harmonic cycle created at the bit.

Bi-directional spring action allows the shock sub to automatically adjust to a wide range of weight on bit values which can be further customized using a low compression spring stack. As axial loads are produced, energy is absorbed through the use of the Belleville spring assembly, while force dampening is accomplished by mechanical friction.

Dynomax can offer shock subs for higher temperature applications with specially designed seals for temperatures above 350°F (175°C).

CORPORATE

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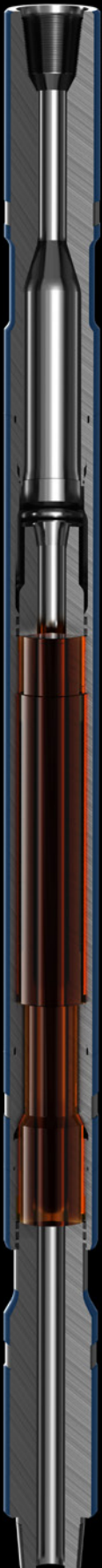
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DynoMax Corporate Head Office
is proud to be
ISO 9001 Quality Certified.

Available Sizes and Specifications on Reverse Side

Dynomax can offer shock subs for higher temperature applications with specially designed seals for temperatures above 350°F (175°C).



	2-7/8" (76 mm)	3-3/4" (95 mm)	4-3/4" (121 mm)
SERIES	02	02	02
TOOL ID	0.875 in (22 mm)	1.250 in (32 mm)	1.750 in (44 mm)
LENGTH	4.7 ft (1.43 m)	6.6 ft (2.01 m)	7.8 ft (2.38 m)
WEIGHT	80 lbs (36 kg)	191 lbs (87 kg)	365 lbs (166 kg)
AXIAL LOAD TO COMPRESS TOOL	10,700 lbf (4,760 daN)	10,000 lbf (4,450 daN)	49,000 lbf (21,795 daN)
TENSILE LOAD AT YIELD	155,300 lbf (69,100 daN)	300,000 lbf (133,440 daN)	380,000 lbf (169,025 daN)
TORSIONAL LOAD TO YIELD BODY CONNECTION	3,600 ft-lbs (4,900 Nm)	8,000 ft-lbs (10,845 Nm)	17,000 ft-lbs (23,050 Nm)
PUMP OPEN AREA	2.54 in ² (16.4 cm ²)	5.94 in ² (38.3 cm ²)	9.62 in ² (62.1 cm ²)
SPRING RATE	7,870 lb/in (1,378 N/mm)	6,200 lb/in (1,085 N/mm)	20,000 lb/in (3,505 N/mm)
OPENING TRAVEL	1 in (25 mm)	1 in (25 mm)	1 in (25 mm)
CLOSING TRAVEL	1.2 in (31 mm)	1.75 in (44 mm)	2.5 in (64 mm)

	5" (127 mm)	6-1/2" (165 mm)	6-3/4" (171 mm)
SERIES	02	02	02
TOOL ID	1.75 in (44 mm)	2.50 in (64 mm)	2.50 in (64 mm)
LENGTH	7.7 ft (2.37 m)	9.2 ft (2.80 m)	9.2 ft (2.80 m)
WEIGHT	408 lbs (185 kg)	781 lbs (354 kg)	837 lbs (380 kg)
AXIAL LOAD TO COMPRESS TOOL	29,650 lbf (13,190 daN)	68,000 lbf (30,245 daN)	68,000 lbf (30,245 daN)
TENSILE LOAD AT YIELD	377,800 lbf (168,050 daN)	750,000 lbf (333,600 daN)	750,000 lbf (333,600 daN)
TORSIONAL LOAD TO YIELD BODY CONNECTION	16,370 ft-lbs (21,445 Nm)	35,000 ft-lbs (47,445 Nm)	48,000 ft-lbs (65,080 Nm)
PUMP OPEN AREA	7.22 in ² (46.6 cm ²)	19.63 in ² (126.7 cm ²)	19.63 in ² (126.7 cm ²)
SPRING RATE	14,358 lb/in (2,510 N/mm)	24,000 lb/in (4,205 N/mm)	24,000 lb/in (4,205 N/mm)
OPENING TRAVEL	0.96 in (24 mm)	1.5 in (38 mm)	1.5 in (38 mm)
CLOSING TRAVEL	1.63 in (42 mm)	2.88 in (73 mm)	2.88 in (73 mm)

	8" (203 mm)	9-1/2" (241 mm)	11-1/4" (286 mm)
SERIES	02	02	02
TOOL ID	2.81 in (71 mm)	3 in (76 mm)	3.50 in (89 mm)
LENGTH	10.7 ft (3.26 m)	13.3 ft (4.05 m)	15.3 ft (4.66 m)
WEIGHT	1,365 lbs (619 kg)	2,483 lbs (1,127 kg)	3805 lbs (1726 kg)
AXIAL LOAD TO COMPRESS TOOL	86,000 lbf (38,255 daN)	140,000 lbf (62,270 daN)	190,000 lbf (84,510 daN)
TENSILE LOAD AT YIELD	1,410,000 lbf (627,170 daN)	2,170,000 lbf (965,215 daN)	3,088,000 lbf (1,373,540 daN)
TORSIONAL LOAD TO YIELD BODY CONNECTION	70,000 ft-lbs (94,905 Nm)	118,000 ft-lbs (159,985 Nm)	146,000 ft-lbs (197,950 Nm)
PUMP OPEN AREA	30.68 in ² (197.9 cm ²)	41.28 in ² (266.3 cm ²)	53.46 in ² (344.9 cm ²)
SPRING RATE	28,000 lb/in (4,905 N/mm)	34,000 lb/in (5,955 N/mm)	36,000 lb/in (6,305 N/mm)
OPENING TRAVEL	1.5 in (38 mm)	2.5 in (64 mm)	3 in (76 mm)
CLOSING TRAVEL	3.1 in (79 mm)	4.22 in (107 mm)	5.28 in (134 mm)

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