



Product Datasheet

BX7

Hydraulic Actuated Elevator

REFERENCE BX7	REFERENCE DESCRIPTION Hydraulic Actuated Elevator	
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CHANGE DESCRIPTION

For changes see: █

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1 TECHNICAL SPECIFICATIONS

General	
Part Number	50000580Y/10112883-001
Minimum Link Set, 1000 sTon, Link Size 5 ½"	70101Y/Z.../10044677-...
Maximum Link Set, 1250 sTon, Link Size 5 ½"	M614000320Y.../10392589-...
Ratings*	
Drill Pipe w/ 18° Tool Joint Rating, sTons (Tonne)	750 (680) or 1000 (907)
Casing w/ 90° Coupling Rating, sTons (Tonne)	1250 (1134)
Special Square Shoulder Riser Bushing Rating, sTons (Tonne)	1250 (1134)
Landing string with 45° Coupling Rating, sTons (Tonne)	1250 (1134)
Size Range, inches	4" –9-5/8"
<p>*The grade + wall thickness (tubing) & grade + contact area vs. elevator bore (collar type & 18° pipe) of the pipe determines the maximum string weight an elevator can handle. In general it is possible that the joints of the pipe cannot take the load of the string and are torn apart. The load shoulder of the tool joint may be sheared off or damaged when using an OD that is too small. In other words; the pipe determines, in most cases (grades equal or below grade 110), how much weight can be run; the elevator does not. The rating of the elevator bushings gives the maximum dynamic + static load, but does not tell you how much weight of a certain brand/type of pipe it can handle. Contact your pipe manufacturer for more details. The safe working load of an elevator = rating – dynamic load = static load.</p>	
Weights & Dimensions	
Weight (without bushings), lbs (kg)	Up to 4,475 (2,030)
Weight (with bushings), lbs (kg)	Up to 4,951 (2,236)
Overall Height (standard), inches (mm)	31.0" (788)
Overall Width (standard), inches (mm)	51.0" (1,295)
Overall Length (standard), inches (mm)	35.23" (895)
Hydraulic System	
Minimum Working Pressure, PSI (kPa)	2,000 (13,789)
Minimum Flow Rate at Elevator , GPM (LPM)	5 (20)
Maximum Working Pressure, PSI (kPa)	2,500 (17,236)
Tubing and Hose Sizes	All tubing and hoses that connect the elevator to the power unit main ring need to have a minimum nominal size of ½" (12.7 mm) diameter
Filter (to be applied in the hydraulic supply line)	50 micron
Recommended Hydraulic Fluid	
The requirements for the hydraulic oil are based upon the best performance of the actuators at specific temperatures / viscosity.	
Recommended oil type	Mineral oil type HVLP (DIN 51502), HV (ISO 6743-4) or equivalent
Determination of the required viscosity class regarding the working temperature	
Viscosity class	Working temperature (acc. ISO 3448) ° C
32	30 up to 50 ° C (86° F up to 122° F)
46	40 up to 60 ° C (104° F up to 140° F)
68	50 up to 70 ° C (122° F up to 158° F)
100	60 up to 80 ° C (140° F up to 176° F)
For other ambient temperature ranges consult HPU and BX(S) manual and apply one class lower viscosity hydraulic fluid	
The BX(S) Hoop Up Kit is equipped with a Pressure Filter. This Filter is located on the inlet of the Hook Up Kit.	@ 10 µm

Lubrication	
Recommended grease	
Use extreme pressure, lithium based, multi-purpose grease classification according to ISO 6743-9:2003 Lubricants, industrial oil and related products (class L) - Classification - Part 9: Family X (greases) or equivalent.	
Minimum requirements:	
Operating temperature range	Grease type
Temp. above -20° C	EP2: L-XBAFB, NLGI grade 1 or 2
Temp. below -20°C	EP1: L-XCAFB, NLGI grade 1 or 2
CE marking	
BX7	CE Ex II2G c T4 Tamb +55°C
Temperature	
Minimum Allowed Ambient Temperature, degrees	-4° F (-20° C)*
Maximum Allowed Ambient Temperature, degrees	131° F (55° C)*
Max. surface temperature [ATEX class]	275° F (135° C)[T4]
Oil temperature recommended	104°-122°F / 40°- 50°C
Maximum Oil temperature	140°F / 60°C
ENVIRONMENT	
Maximum Humidity:	100% RH
Explosion safety: - ATEX Category:	Category 2
- ATEX Gas Group:	IIB
- ATEX T Class:	T4
- ATEX EPL:	Gb
Use limits:	Trained persons only (users responsibility)
Space Limits:	External limits defined by the Users Instructions
Time Limits	Design life = 20 years
Directives	
Typically Complies With:	Machinery Directive 2006/42/EC
	ATEX (Explosion safety) 94/9/EC
Standards	
Typically Complies With:	EN-ISO 4413:2010 Hydraulic fluid power- General rules and safety requirements for systems and their components.
	EN-1127-1:2011 Explosion atmospheres - Explosion prevention and protection. Part 1: Basic concepts and methodology.
	EN-ISO 12100:2010 Safety of machinery - Basic concepts, general principles for design - Risk assessment and risk reduction
	EN-13463-1:2009 Non electrical equipment for use in potentially explosive atmospheres. Part 1: Basic method and requirements
	EN-13463-5:2011 Non electrical equipment for use in potentially explosive atmospheres. Part 5: Protection by constructional safety 'c' ATEX-directive.
	API 8C
Equipment	
The BX7 elevator can be used in combination with rotator 50004160/10703304-001.	

* In case the ambient temperature is outside this range, please contact National OilwellVarco FOR GUIDANCE

2 BUSHING OVERVIEW

WARNING: In some cases the BX7-bushing may handle lower loads than the elevator is rated for. Check the bushing for the maximum load.

up to 1,000 sTon / 907 Tonne for 18° Tool Joint

up to 1,250 sTon / 1,134 Tonne for 90°/45° coupling

Casing Bushings, 1250 sTon / 1134 Tonne			
Oracle Part Number	Part Number	Size, [""]	Mass 4 Segments (for information only) Excluding Transport Frame, lbs (kg)
10183719-001	50000314Y135	6 5/8"	414 (187)
10183720-001	50000314Y136	7"	406 (183)
10183721-001	50000314Y137	7 5/8"	397 (197)
10183724-001	50000314Y705	7 3/4"	390 (176)
10112880-001	50000314Y757	8"	413 (187)
10183722-001	50000314Y139	8 5/8"	383 (174)
10183725-001	50000314Y804	8 3/4"	376 (171)
10183726-001	50000314Y883	9 1/8"	357 (162)
10183723-001	50000314Y141	9 5/8"	329 (149)
10490423-505	50000314Y649	9.7/8"	315 (143)
10490423-513	50000314Y846	10.1/8"	310 (140)
Drill Pipe 18 DEGREE Bushings, 750 sTon / 680 Tonne			
Oracle Part Number	Part Number	Size, [""]	Mass 4 Segments (for information only) Excluding Transport Frame, lbs (kg)
11331824-002	N/A	4 EU + 4.1/2 IEU, 778	494 (224)
11331824-003	N/A	4.1/2 XTM, 881	498 (226)
11331824-004	N/A	4.1/2 EU + 5 IEU, 779	456 (207)
10731576-001	50000312Y780	5 1/2" IEU	468 (212)
10112877-001	50000312Y781	5 1/2" IF	456 (207)
Drill Pipe 18 DEGREE Bushings, 1000 sTon / 907 Tonne			
10112879-003	50000312Y770	5.1/2-5 7/8" , with 6" UPSET	460 (209)
10112878-001	50000312Y782	6 5/8" IEU DRILL	428 (194)
10704616-001	50000312Y823	6 5/8", WITH 7.1/8" UPSET	421 (191)
16510829-001	N/A	7. 5/8 WITH 8.1/4 UPSET, BOX OD 9.1/4"	344 (156)
Landing string with 45 degree bushings, 1250 sTon / 1134 Tonne			
Oracle Part Number	Part Number	Size, [""]	Mass 4 Segments (for information only) Excluding Transport Frame, lbs (kg)
10490423-013	50000314Y832	6 5/8"	431 (196)
10702224-001	50000314Y870	6 5/8" WITH R 1.5"	433 (197)
11470184-001	N/A	7. 5/8 WITH 8.1/4 UPSET, BOX OD 9.1/4"	355 (161)

special Square Shoulder bushings, 1,250 ton / 1134 Tonne			
Oracle Part Number	Part Number	Size, ["	Mass 4 Segments (for information only) Excluding Transport Frame, lbs (kg)
10490423-016	50000314Y884	8"	413 (187)
10702228-001	50000314Y783	8 3/4"	377 (171)
10490423-010	50000314Y784	8 5/8"	384 (174)
10490423-018	50000314Y929	9.28"	340 (154)
10490423-017	50000314Y893	9.40"	333 (151)
10112881-001	50000314Y788	9 5/8"	331 (150)
Special Riser Bushings, 1250 sTon / 1134 Tonne			
Oracle Part Number	Part Number	Size, ["	Mass 4 Segments (for information only) Excluding Transport Frame, lbs (kg)
10702223-001	50000314Y834	Special 55° Tapered Bushing	431 (195)
10702225-001	50000314Y902	9.28", 15° Tapered Riser Bushing	345 (156)