



T.D. Williamson, Inc.

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760 Tapping Machine

Sizes: 3- through 16-inches *Model 760B*



■ 760 Tapping Machine

Description

Tapping machines are used for making connections to pipelines, tanks, and plant piping without shutdown and are used to make hot taps in preparation for plugging machine application.

Model 760B Tapping Machines can be either air or hydraulically operated and are used for making pipe and tank taps from 3- to 16-inches (DN 80 to DN 400). Its maximum working pressure is 1,480 psi (102 bar) at 100°F (38°C). Its operating temperature is -20°F (-29°C) to 700°F (371°C) at 700 psi (48 bar) for intermittent service. Its maximum continuous rating is 350°F (177°C) at 1,025 psi (70 bar).

This model features a split frame for lower maintenance costs and ease of packing replacement.

Features

The basic machine includes:

- Lower-in crank
- Measuring rod
- Retainer rod pusher
- Ring gasket
- Bleeder valve and nipple
- Motor adapter
- Set of bolts and nuts
- LOCK-O-RING® bypass gauge

Options*

T. D. Williamson, Inc. is committed to providing you with the exact product to assist you in planning, budgeting and meeting the specifications for your individual application needs. The following options are available:

- Model 760B Tapping Machine can be either air or hydraulically operated.

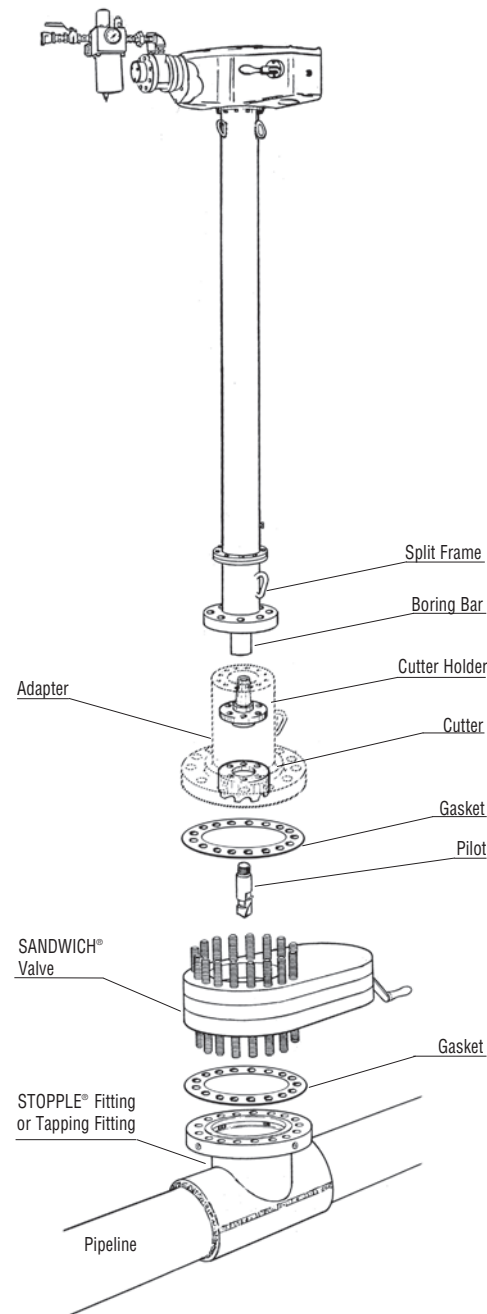
* For design code options not listed and additional sizes, consult your sales representative.

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1-888-TDWmSon (839-6766)

■ Typical Tapping Setup



760 Tapping Machine *Model 760B*

Operating Specifications

Boring Bar Travel	66" (1,676 mm)
Tank Taps*	3" through 14" (80-350 mm)
Pipe Taps*	3" through 16" (80-400 mm)
Max. Operating Pressure	1,480 psi (102 bar) at 100°F (38°C)
Max. Operating Temperature	700°F (371°C) at 700 psi (48 bar)**
Power	Hydraulic or Air Motor
Feed Rate	Standard .005" (.127 mm) per revolution/optional .003" (.076 mm) per revolution
Lower-In Crank	4-1/2 turns per inch (5.6 mm per turn)
Length without measuring rod	88-1/2" (2,248 mm)
Length with measuring rod	158-1/2" (4,026 mm)
Meets NACE specification	MR0175-93

* See note 5 in "Recommended Power Options" Chart.

** For intermittent service only. Its maximum continuous rating is 350°F (177°C) at 1,025 psi (70 bar).

Air Operation Model

			Standard Feed (.005"/Revolution)	Slow Feed (.003"/Revolution)
	Lbs.	Kg.	Part Number	Part Number
Tapping Machine	500	227	05-2180-0000	05-2178-0000
Air Motor Drive Assembly	40	18	05-2327-0000	05-2327-0000
Skid*	212	96	05-0040-0000	05-0040-0000
TOTAL WEIGHT	752	341		

* If skid is not purchased with the tapping machine, there will be a special crating charge; consult factory.

Hydraulic Operation Model

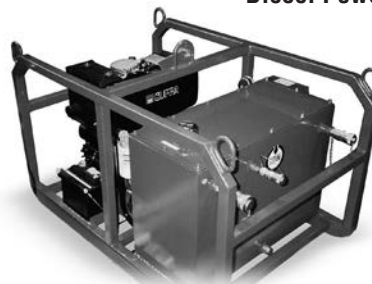
			Standard Feed (.005"/Revolution)	Slow Feed (.003"/Revolution)
	Lbs.	Kg.	Part Number	Part Number
Tapping Machine	500	227	05-2180-0000	05-2178-0000
Single Drive Unit & Control Valve	45	20	05-2508-0000	05-2508-0000
Dual Drive Unit & Control Valve	100	45	05-2503-0000	05-2503-0000
Skid*	212	96	05-0040-0000	05-0040-0000
Power Unit				
Hydraulic Power Unit and 50' Hose w/Oil				
Manual Start/Diesel	585	266	05-2017-0000	05-2017-0000
Electric Start/Diesel	600	272	05-2330-0000	05-2330-0000
Manual Start/Gas	533	242	05-2351-0000	05-2351-0000
Electric Start/Gas	550	250	05-2354-0000	05-2354-0000

* If skid is not purchased with the tapping machine, there will be a special crating charge; consult factory.

■ Gasoline Power Unit



■ Diesel Power Unit



760 Tapping Machine *Model 760B*

Standard Adapters for Gate Valves

ASME Class 150 RF Flange					ASME Class 300 RF Flange			ASME Class 600 RF Flange		
Inches	mm	Lbs.	Kg.	Part Number	Lbs.	Kg.	Part Number	Lbs.	Kg.	Part Number
3	80	54	24	06-6102-0003	55	25	06-6103-0003	57	26	06-6105-0003
4	100	57	26	06-6102-0004*	65	29	06-6103-0004	80	36	06-5091-0004
6	150	70	32	06-5088-0006*	95	43	06-6103-0006	146	66	06-5091-0006
8	200	85	39	06-6102-0008*	100	45	06-6103-0008	150	68	06-6105-0008
10	250	115	42	06-6102-0010*	155	70	06-6103-0010	200	91	06-6105-0010
12	300	170	77	06-6102-0012*	215	98	06-6103-0012	315	143	06-6105-0012
14	350	191	87	06-6102-0014	227	103	06-6103-0014	359	163	06-6105-0014
16**	400	300	136	06-6102-0016	350	160	06-6103-0016	460	210	06-6105-0016

* Will work on SHORTCUTT® Valves, Bulletin 2010.001.00

** For dual hydraulic model only.

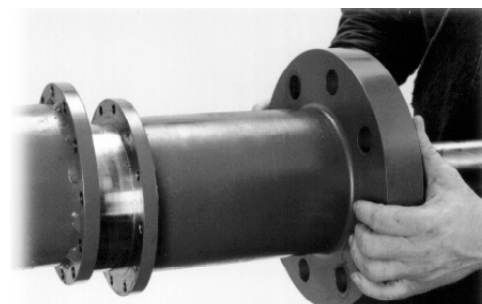
Adapters for SANDWICH® Valves and Ball Valves

ASME Class 300 RF Flange					ASME Class 600 RF Flange		
Inches	mm	Lbs.	Kg.	Part Number	Lbs.	Kg.	Part Number
4	100	65	29	06-6103-0004	76	34	06-5091-0004
6	150	95	43	06-6103-0006	130	59	06-5091-0006
8	200	100	45	06-5089-0008	265	91	06-5091-0008
10	250	155	70	06-5089-0010	265	120	06-5091-0010
12	250	215	97	06-5089-0012	384	174	06-5091-0012
14	300	315	143	06-5089-0014	510	231	06-5091-0014
16*	350	415	188	06-5089-0016	580	262	06-5091-0016

* For dual hydraulic model only.

■ Split Frame Feature

The frame assembly is split at the lower end, so that the lower section can be unbolted and removed over the drive tube and boring bar and the packing replaced.





760 Tapping Machine

Model 760B

Cutter Holders & LOCK-O-RING® Plug Holders

			Cutter Holders			LOCK-O-RING® Plug Holders		
Inches	mm		Lbs.	Kg.	Part Number	Lbs.	Kg.	Part Number
3 & 4	80 & 100		2.5	1	05-0054-0001	--	--	--
6-12	150-300		8	4	05-0054-0002	--	--	--
14-16	350-400		7	3	05-0054-0003	--	--	--
4-16	100-400		--	--	--	3.5	2	05-0075-0000

Standard Cutters & Pilot Drills

Nominal Tap Size		Actual Size		Cutters			Pilot Drills			Spare U-rods
Inches	mm	Inches	mm	Wt./Lbs.	Wt./Kg.	Part Number	Wt./Lbs.	Wt./Kg.	Part Number	Part Number
3	80	2-7/16	61.9	1	0.4	05-0001-0001	1/22	0.2	05-0293-0001	00-1424-0012
4	100	3-7/16	87.3	2	0.9	05-0328-0004	1/2	0.2	05-0293-0008	00-1424-0012
6	150	5-15/32	138.9	5-3/4	3	05-0328-0006	2	0.9	05-0293-0002	00-1424-0003
8	200	7-5/16	185.8	14-1/2	7	05-0328-0008	2	0.9	05-0293-0003	00-1424-0003
10	250	9-1/2	241.3	22-1/2	10	05-0328-0010	2	0.9	05-0293-0004	00-1424-0003
12	300	11-1/2	292.1	36	16	05-0389-0012	2-1/2	1.0	05-0293-0005	00-1424-0008
14	350	12-3/4	323.9	42	19	05-0389-0014	5-1/2	2.5	05-0293-0006	00-1424-0008
16	400	14-11/16	373.1	61	28	05-0389-0016	6	2.7	05-0293-0007	00-1424-0008

SHORTSTOPP® Cutters & Pilot Drills

Nominal Tap Size		Actual Size		Cutters			Pilot Drills			Spare U-rods
Inches	mm	Inches	mm	Wt./Lbs.	Wt./Kg.	Part Number	Wt./Lbs.	Wt./Kg.	Part Number	Part Number
4	100	3-7/8	98.4	3-1/4	1	05-0330-0004	1/2	0.2	05-0293-0008	00-1424-0012
6	150	5-7/8	149.2	8-3/4	3	05-0330-0006	2	0.9	05-0293-0002	00-1424-0003
8	200	7-3/4	196.9	20	9	05-0330-0008	2	0.9	05-0293-0003	00-1424-0003
10	250	9-3/4	247.7	23	10	05-0330-0010	2	0.9	05-0293-0004	00-1424-0003
12	300	11-3/4	298.5	40	18	05-0330-0012	2-1/2	1.0	05-0293-0005	00-1424-0003

STOPPLE® Cutters & Pilot Drills

Nominal Tap Size		Actual Size		Cutters			Pilot Drills			Spare U-rods
Inches	mm	Inches	mm	Wt./Lbs.	Wt./Kg.	Part Number	Wt./Lbs.	Wt./Kg.	Part Number	Part Number
4	100	3-15/16	100	3-1/2	2	05-0329-0004	1/2	0.2	05-0293-0008	00-1424-0012
6	150	5-15/16	150.8	9	4	05-0329-0006	2	0.9	05-0293-0002	00-1424-0003
8	200	7-7/8	200	16	7	05-0329-0008	2	0.9	05-0293-0003	00-1424-0003
10	250	9-7/8	200.8	27	12	05-0329-0010	2	0.9	05-0293-0004	00-1424-0003
12	300	11-13/16	300.1	40-1/2	18	05-0388-0012	2-1/2	1	05-0293-0005	00-1424-0008
14	350	13-1/16	331.8	49	22	05-0388-0014	5-1/2	2.5	05-0293-0006	00-1424-0008
16	400	15-1/16	382.6	64	29	05-0388-0016	6	2.7	05-0293-0007	00-1424-0008



760 Tapping Machine *Model 760B*

Recommended Power Options for Tapping Size On Size

Feed Rate	Cutter Size							
	3"	4"	6"	8"	10"	12"	14"	16"
(0.005"/REV) AIR/HYD	A	A	A	A	A	A		
	B	B	B	B	B			
	C	C	C	C				
	D	D	D	D				
	E	E	E	E				
	F	F	F	F				
(0.005"/REV) DUAL HYD	A	A	A	A	A	A	A	
	B	B	B	B	B	B	B	
	C	C	C	C	C	C		
	D	D	D	D	D	D		
	E	E	E	E	E	E		
	F	F	F	F	F	F		
(0.003"/REV) AIR/HYD	A	A	A	A	A	A	A	
	B	B	B	B	B	B		
	C	C	C	C	C			
	D	D	D	D	D			
	E	E	E	E	E			
	F	F	F	F				
(0.003"/REV) DUAL HYD	A	A	A	A	A	A	A	A
	B	B	B	B	B	B	B	
	C	C	C	C	C	C	C	
	D	D	D	D	D	D	D	
	E	E	E	E	E	E	E	
	F	F	F	F	F	F		

Notes

- The following letters represent:
A = Carbon steel pipe SMYS (Specified Minimum Yield Strength) 30,000 to 50,000 psi, maximum tensile strength of 70,000 psi.
B = Carbon steel pipe SMYS 50,000 to 70,000 psi, maximum tensile strength of 90,000 psi.
C = Cast iron pipe. Cutting characteristics vary widely; hard to predict.
D = Chrome-moly, high temperature, steel pipe.
E = 300 series stainless steel pipe.
F = Flat plate cuts using special cutters on the materials listed above (refer to Notes 3 and 4). Pilot drill must be through before cutter tooth engages material.
- The dual hydraulic drive features an ability to shift from high speed/low torque to low speed/high torque when tapping the larger diameter pipes and/or the more difficult cutting steels.
- The table for selecting power options (above) is based on the latest TDW designs and past experience. The data should be used as a guideline. There have been, and will be, conditions which will not strictly follow the guidelines.
- Special cutters are available for flat plates, stainless steel pipe, cast iron pipe and other special conditions.
- When tapping a larger pipe or tank, the cutter will sometimes go through the flat-plate condition. For example, all teeth are cutting at the same time. This is the most power-consuming condition possible and special cutters may be required. Considering cutter size, diameter of cylinder, wall thickness, feed rates, different materials of construction, etc., the possibilities are infinite. The following table gives some examples of flat-plate conditions. Any pipe or tank with wall thicknesses greater than those shown will also be considered flat plate.

Cutter Size	Nom. Pipe x Wall	Nom. Pipe x Wall	Nom. Pipe x Wall
3"	4" x .359"	6" x .232"	8" x .176"
4"	6" x .481"	8" x .357"	10" x .282"
6"	10" x .748"	12" x .616"	14" x .556"
8"	18" x .776"	20" x .692"	24" x .571"
10"	24" x .980"	30" x .772"	48" x .475"
12"	36" x .943"	48" x .699"	60" x .556"
14"	48" x .862"	60" x .685"	72" x .569"
16"	56" x .980"	60" x .913"	72" x .757"