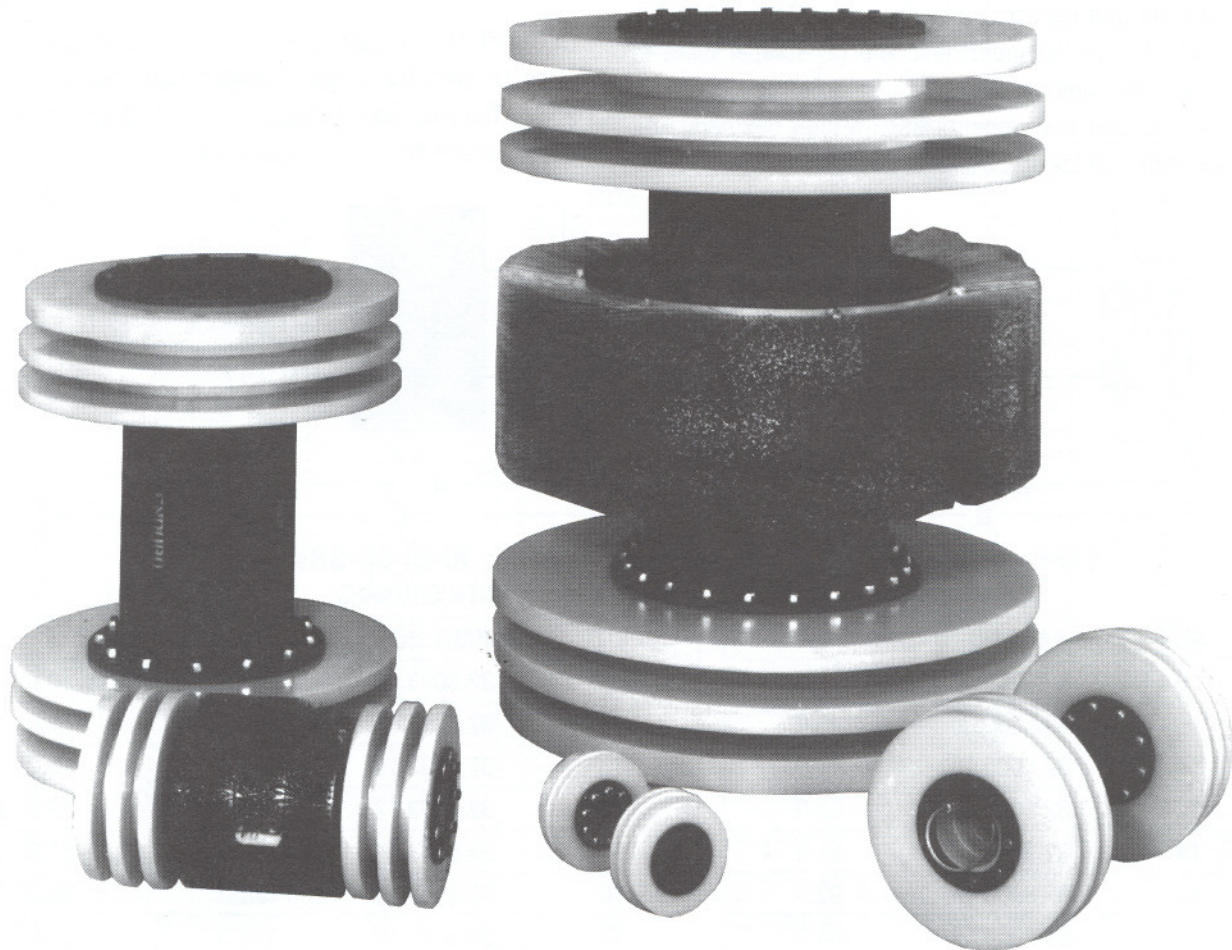


THE ENDURO BI-DIRECTIONAL PIG



FEATURES:

- LIGHT WEIGHT
- BI-DIRECTIONAL TRAVEL
- FLEXIBILITY
- EXCELLENT SEAL
- TOUGH, WEAR ABRASIVE URETHANE MATERIAL
- SUPPORT DISC OPTION TO EASE FIELD LOADING



ENDURO Pipeline Services, Inc.



ENDURO BI-DIRECTIONAL PIGS

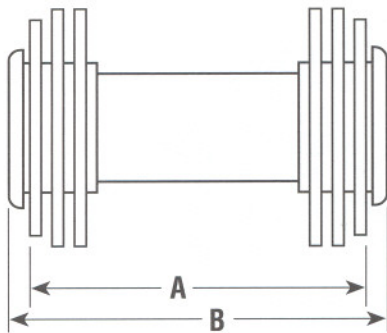
The ENDURO Bi-Directional Pigs are most commonly used as fill and displacement pigs during the hydrostatic phase of pipeline testing, although some like to use these pigs for unidirectional applications. These pigs are offered in either a 4 or 6 disc version, with or without wrap brush cleaning elements.

The ENDURO Bi-Directional Pig body is constructed of tubular steel with replaceable components. The BI-DI-6D is fitted with (1) guide/support disc and (2) scraper discs at each end. The support discs are omitted on the BI-DI-4D. Urethane spacer components ensure high flexibility and correct spacing of the disc package.

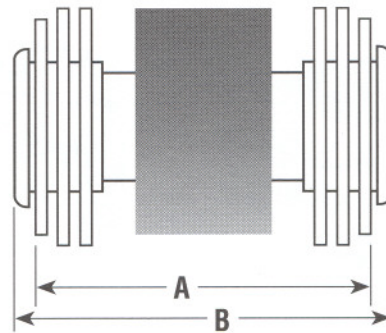
The guide/support disc centralizes the pig and assures alignment in heavy wall pipe, while assists in supporting the pig weight. The scraper discs scrape, seal and clean the pipeline inner wall. **Full wrap-around wire brush assemblies are available on both the BI-DI-4D and the BI-DI-6D models.**

These are available in sizes 6 inch and larger.

ENDURO Tracking Equipment may be readily installed in sizes 16 inch and larger. Smaller sizes require a special body. The pigs may also be equipped with optional gauging plates, ovality disc, and magnetic cleaners.



TYPE: BI-DI-6D



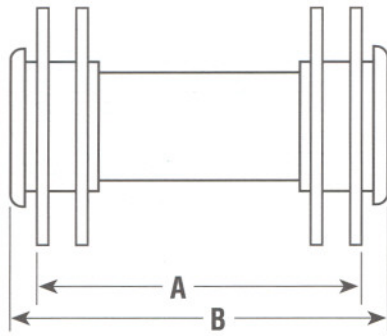
TYPE: BI-DI-6D-BRW
WITH BRUSHES

SIZE	PART NO	WT.
6	32.6000.06	22.0
8	32.6000.08	25.0
10	32.6000.10	44.0
12	32.6000.12	52.0
14	32.6000.14	61.0
16	32.6000.16	92.0
18	32.6000.18	104.0
20	32.6000.20	141.0
22	32.6000.22	161.0
24	32.6000.24	230.0
26	32.6000.26	295.0
28	32.6000.28	358.0
30	32.6000.30	395.0
34	32.6000.34	532.0
36	32.6000.36	628.0
40	32.6000.40	748.0
42	32.6000.42	1,029.0
48	32.6000.48	1,295.0

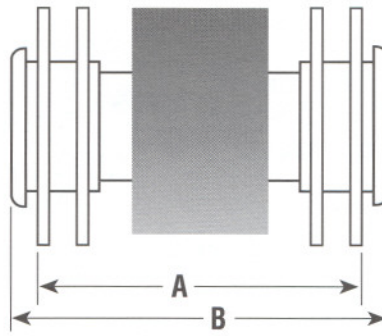
SIZE	PART NO	WT.
6	32.6003.06	25.0
8	32.6003.08	31.0
10	32.6003.10	52.0
12	32.6003.12	65.0
14	32.6003.14	88.0
16	32.6003.16	128.0
18	32.6003.18	152.0
20	32.6003.20	201.0
22	32.6003.22	225.0
24	32.6003.24	298.0
26	32.6003.26	368.0
28	32.6003.28	437.0
30	32.6003.30	479.0
34	32.6003.34	627.0
36	32.6003.36	729.0
40	32.6003.40	868.0
42	32.6003.42	1,169.0
48	32.6003.48	1,475.0

A	B
10.0	11.0
12.0	13.0
16.0	17.5
19.5	21.0
21.0	22.5
30.0	33.0
32.0	35.0
34.0	37.0
37.0	40.0
39.0	42.0
41.0	44.0
42.0	45.0
44.0	47.0
46.0	49.0
48.0	51.0
51.0	55.0
53.0	57.0
57.0	62.0

ENDURO BI-DIRECTIONAL PIGS



TYPE: BI-DI-4D



TYPE: BI-DI-4D-BRW
WITH BRUSHES

SIZE	PART NO	WT.
6	32.4000.06	19.0
8	32.4000.08	21.0
10	32.4000.10	39.0
12	32.4000.12	46.0
14	32.4000.14	54.0
16	32.4000.16	84.0
18	32.4000.18	92.0
20	32.4000.20	123.0
22	32.4000.22	139.0
24	32.4000.24	202.0
26	32.4000.26	263.0
28	32.4000.28	320.0
30	32.4000.30	353.0
34	32.4000.34	476.0
36	32.4000.36	568.0
40	32.4000.40	678.0
42	32.4000.42	951.0
48	32.4000.48	1,215.0

SIZE	PART NO	WT.
6	32.4003.06	22.0
8	32.4003.08	27.0
10	32.4003.10	47.0
12	32.4003.12	59.0
14	32.4003.14	81.0
16	32.4003.16	120.0
18	32.4003.18	140.0
20	32.4003.20	183.0
22	32.4003.22	203.0
24	32.4003.24	270.0
26	32.4003.26	336.0
28	32.4003.28	399.0
30	32.4003.30	437.0
34	32.4003.34	571.0
36	32.4003.36	669.0
40	32.4003.40	798.0
42	32.4003.42	1,091.0
48	32.4003.48	1,350.0

A	B
7.5	8.5
10.0	11.0
12.5	14.0
15.0	16.5
17.5	19.0
20.0	23.0
22.5	25.5
25.0	28.0
27.5	30.5
30.0	33.0
32.5	35.5
35.0	38.0
37.5	40.5
42.5	45.5
45.0	48.0
50.0	54.0
52.5	56.5
60.0	64.0

The disc are made from a liquid cast high quality Polyurethane chosen for its exceptional wear and abrasion resistance.

URETHANE PHYSICAL PROPERTIES:

Hardness.....	85 Shore A*	Elongation.....	570%
Tear.....	500PLI	Tensile.....	6200PSI
Rebound.....	35%	Temperature.....	-60 F. to 200 F.
Abrasion.....	20 Milligrams Loss ASTM Test		

*Hardness options available upon request.

ENDURO BI-DIRECTIONAL PIGS - SPARE PARTS



SCRAPER DISC
FOR BI-DI-4D & BI-DI-6D

SIZE	PART NO	WT.
6	62.2000.06	.5
8	62.2000.08	1.0
10	62.2000.10	2.5
12	62.2000.12	3.5
14	62.2000.14	6.0
16	62.2000.16	5.3
18	62.2000.18	7.0
20	62.2000.20	8.5
22	62.2000.22	11.0
24	62.2000.24	14.5
26	62.2000.26	18.5
28	62.2000.28	28.0
30	62.2000.30	31.5
34	62.2000.34	45.0
36	62.2000.36	52.0
40	62.2000.40	71.0
42	62.2000.42	84.0
48	62.2000.48	117.0



SUPPORT DISC
FOR BI-DI-6D

SIZE	PART NO	WT.
6	62.2100.06	.5
8	62.2100.08	1.3
10	62.2100.10	2.8
12	62.2100.12	4.5
14	62.2100.14	7.0
16	62.2100.16	5.5
18	62.2100.18	8.0
20	62.2100.20	11.8
22	62.2100.22	17.0
24	62.2100.24	21.5
26	62.2100.26	24.0
28	62.2100.28	35.0
30	62.2100.30	39.5
34	62.2100.34	55.0
36	62.2100.36	64.0
40	62.2100.40	89.0
42	62.2100.42	114.0
48	62.2100.48	148.0



BRUSH WRAP ASSEMBLY
FOR BI-DI-4D & BI-DI-6D

SIZE	PART NO	WT.
6	63.3000.06	3.0
8	63.3000.08	6.0
10	63.3000.10	8.0
12	63.3000.12	13.0
14	63.3000.14	27.0
16	63.3000.16	36.0
18	63.3000.18	48.0
20	63.3000.20	60.0
22	63.3000.22	64.0
24	63.3000.24	68.0
26	63.3000.26	73.0
28	63.3000.28	79.0
30	63.3000.30	84.0
34	63.3000.34	95.0
36	63.3000.36	101.0
40	63.3000.40	120.0
42	63.3000.42	140.0
48	63.3000.48	180.0

NOTE: Gauging Plates, Magnets, Ovality Discs and Mechanical Couplers are also available for Bi-Directional Pigs. Consult factory for options.

