MS BUTT-WELD ECCENTRIC REDUCER SCH 40

Butt-Weld Eccentric Reducer · Carbon Steel ASTM A234 WPB · ASME B16.9

BRAND: SW FLOW CONTROLS | SKU: SW-0314 | SIZE 1" TO 24" | SCH 40



FIG. 1 | MS BUTT-WELD ECCENTRIC REDUCER SCH 40

PRODUCT OVERVIEW

The SWBM MS Butt-Weld Eccentric Reducer joins two pipes of different bore with one side kept flat. Installed flat side up on pump suctions it prevents air pockets, and flat side down on pipe racks it keeps a constant bottom of pipe for drainage. It is produced from carbon steel to ASTM A234 Grade WPB with a SCH 40 wall and dimensioned to ASME B16.9.

Ends are bevelled for full penetration butt welding to ASME B16.25, giving a permanent, leak tight joint with a smooth bore and no crevices. Wall thickness matches SCH 40 pipe to ASME B36.10M, so the fitting carries the same pressure rating as the connecting seamless pipe of the same schedule and material.

Fitting type	**Eccentric reducer, butt-weld**
Material	**Carbon steel, ASTM A234 WPB**
Dimensional standard	**ASME B16.9**
Wall thickness	**SCH 40, ASME B36.10M**
End connection	**Bevelled butt-weld, ASME B16.25**
Size range	**1" to 24" (DN25 to DN600)**

TECHNICAL SPECIFICATION

Material specification	**ASTM A234 / ASME SA234 WPB**
Dimensional standard	**ASME B16.9**
Wall schedule	**SCH 40 to ASME B36.10M**
End preparation	**Bevel to ASME B16.25**
Bevel angle	**37.5° ±2.5°**
Geometry	**Eccentric, one side flat**

Carbon	**0.30% max**
Manganese	**0.29% to 1.06%**
Tensile strength	**415 to 585 MPa**
Yield strength	**240 MPa min**
Pressure rating	**Equal to SCH 40 seamless pipe**
Surface finish	**Black varnish, rust preventive**

FEATURES AND MATERIALS

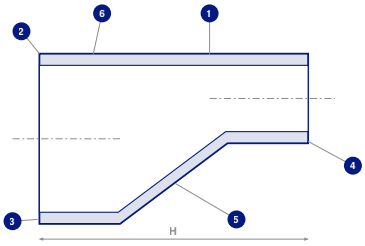


FIG. 2 | SECTION THROUGH REDUCER

#	FEATURE	MATERIAL / DETAIL
1	Body	Carbon steel, ASTM A234 Grade WPB
2	Weld end bevel	37.5° ±2.5° to ASME B16.25
3	Root face (land)	1.6 mm ±0.8 mm
4	Wall thickness	SCH 40 to ASME B36.10M
5	Surface finish	Black varnish, rust preventive
6	Marking	Size, schedule, grade, heat no. (MSS SP-25)

One piece fitting, no assembled parts. Thin walls of 3 mm and under may be supplied square cut or slightly chamfered.

DIMENSIONS AND WEIGHTS

SIZE	DN	OD (MM)	WALL (MM)	H (MM)	SMALL END OPTIONS	WEIGHT (KG)
1"	25	33.4	3.38	51	3/4, 1/2	0.11
1.1/4"	32	42.2	3.56	51	1, 3/4, 1/2	0.15
1.1/2"	40	48.3	3.68	64	1.1/4, 1, 3/4, 1/2	0.24
2"	50	60.3	3.91	76	1.1/2, 1.1/4, 1, 3/4	0.36
2.1/2"	65	73.0	5.16	89	2, 1.1/2, 1.1/4, 1	0.62
3"	80	88.9	5.49	89	2.1/2, 2, 1.1/2, 1.1/4	0.88
3.1/2"	90	101.6	5.74	102	3, 2.1/2, 2, 1.1/2	1.27
4"	100	114.3	6.02	102	3.1/2, 3, 2.1/2, 2, 1.1/2	1.51
5"	125	141.3	6.55	127	4, 3.1/2, 3, 2.1/2, 2	2.39
6"	150	168.3	7.11	140	5, 4, 3.1/2, 3, 2.1/2	3.49
8"	200	219.1	8.18	152	6, 5, 4, 3.1/2	5.33
10"	250	273.0	9.27	178	8, 6, 5, 4	9.09
12"	300	323.8	10.31	203	10, 8, 6, 5	14.1
14"	350	355.6	11.13	330	12, 10, 8, 6	28.7
16"	400	406.4	12.70	356	14, 12, 10, 8, 6	38.6
18"	450	457.0	14.27	381	16, 14, 12, 10, 8	53.0
20"	500	508.0	15.09	508	18, 16, 14, 12, 10, 8	86.0
24"	600	610.0	17.48	508	20, 18, 16, 14, 12, 10	110.7

Size, OD and wall refer to the large end. H = end to end. Weight is for reduction to the first small end listed. OD and wall to ASME B36.10M SCH 40; fitting dimensions to ASME B16.9. Weights are calculated estimates and not certified. Dimensions and weights are nominal and are given for guidance only. Certified drawings for the supplied make and size are issued on request.

ORDERING INFORMATION

FIELD	OPTIONS
Product code	SW-0314
Size	1", 1.1/4", 1.1/2", 2", 2.1/2", 3", 3.1/2", 4", 5", 6", 8", 10", 12", 14", 16", 18", 20", 24" (large end x small end)
Schedule	SCH 40. Other schedules available under separate codes
Material	ASTM A234 WPB. MTC to EN 10204 3.1 on request
Order example	**SW-0314 / 4" x 2" / SCH 40 / A234 WPB / BW**

Stock held in Dubai for fast despatch across the UAE and GCC. Contact our sales desk for pricing, availability, project quantities and certification requirements.

PRESSURE AND TEMPERATURE

Pressure rating	**Equal to SCH 40 seamless pipe of the same material**
Basis	**ASME B16.9 rating clause**
Allowable stress	**138 MPa at -29°C to +38°C (ASME B31.3)**
Minimum temperature	**-29°C (ASME B31.3, curve B)**
Maximum temperature	**+425°C for prolonged service**

Design pressure is calculated by the piping designer from the governing code (ASME B31.1, B31.3, B31.4 or B31.8) using the wall thickness, corrosion allowance and design temperature. Impact testing may be required near the minimum temperature on thicker walls. Confirm duty with SWBM before use outside these limits.

TYPICAL APPLICATIONS

- Pump suction lines, flat side up
- Pipe racks with constant bottom of pipe
- Oil and gas and refinery piping
- Chemical processing lines
- Water treatment and supply networks
- Lines requiring drainage or venting

COMPLIANCE AND QUALITY

- Material to ASTM A234 / ASME SA234 Grade WPB
- Dimensions and tolerances to ASME B16.9
- Wall thickness to ASME B36.10M SCH 40
- Weld end bevel to ASME B16.25
- Marking to MSS SP-25
- Heat treatment as required by ASTM A234
- Material test certificate EN 10204 3.1 on request

INSTALLATION AND OPERATION

- Clean the bevel and 25 mm either side to bright metal, removing varnish, oil and rust
- Check bevel and root face for damage, re-dress to ASME B16.25 if required
- Orient flat side up on pump suctions, flat side down on pipe racks, then set a 1.6 to 3.2 mm root gap
- Weld with procedures and welders qualified to ASME Section IX
- Apply preheat and post weld heat treatment where the piping code requires it
- Carry out NDE and pressure testing to the governing piping code

COMPANY

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