

### BOX CONNECTOR

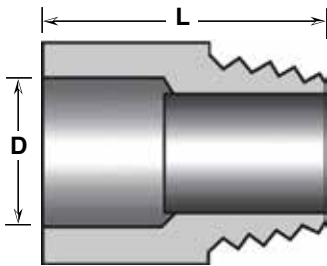
(Straight Threads)

A box connector creates a separable termination into a box. This connector has straight threads (NPS) and is supplied with a locknut. O-ring supplied upon request.

| Nominal Size | Type | IPS Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|--------------|------------|---------|------------|--------|
| ¾            | SW   | 07E-SW-30    | 1.06 (27)  | 3 (76)  | 0.11       | (.05)  |
| 1            | SW   | 10E-SW-30    | 1.32 (34)  | 3 (76)  | 0.22       | (.10)  |
| 1¼           | SW   | 12E-SW-30    | 1.67 (42)  | 3 (76)  | 0.25       | (.12)  |
| 1½           | SW   | 15E-SW-30    | 1.91 (49)  | 3 (76)  | 0.29       | (.13)  |
| 2            | SW   | 20E-SW-30    | 2.40 (61)  | 5 (127) | 0.85       | (.39)  |
| 3            | SW   | 30E-SW-30    | 3.52 (89)  | 5 (127) | 1.28       | (.58)  |
| 4            | SW   | 40E-SW-30    | 4.47 (114) | 5 (127) | 2.09       | (.95)  |
| 4            | HW   | 40E-HW-30    | 4.52 (115) | 5 (127) | 2.09       | (.95)  |
| 5            | MW   | 50E-MW-30    | 5.59 (142) | 5 (127) | 2.75       | (1.25) |
| 5            | HW   | 50E-HW-30    | 5.63 (143) | 5 (127) | 2.75       | (1.25) |
| 6            | MW   | 60E-MW-30    | 6.66 (169) | 5 (127) | 2.97       | (1.35) |
| 6            | HW   | 60E-HW-30    | 6.69 (170) | 5 (127) | 2.97       | (1.35) |

| Nominal Size | Type | ID Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|-------------|------------|---------|------------|--------|
| 2            | SW   | 20F-SW-30   | 2.16 (55)  | 5 (127) | 0.85       | (.39)  |
| 2½           | SW   | 25F-SW-30   | 2.66 (68)  | 5 (127) | 0.94       | (.43)  |
| 3            | SW   | 30F-SW-30   | 3.16 (80)  | 5 (127) | 1.28       | (.58)  |
| 3½           | SW   | 35F-SW-30   | 3.66 (93)  | 5 (127) | 1.77       | (.80)  |
| 4            | SW   | 40F-SW-30   | 4.16 (106) | 5 (127) | 2.09       | (.95)  |
| 4            | HW   | 40F-HW-30   | 4.20 (107) | 5 (127) | 2.09       | (.95)  |
| 4½           | SW   | 45F-SW-30   | 4.66 (118) | 5 (127) | 2.40       | (1.08) |
| 4½           | HW   | 45F-HW-30   | 4.70 (119) | 5 (127) | 2.40       | (1.08) |
| 5            | MW   | 50F-MW-30   | 5.20 (132) | 5 (127) | 2.75       | (1.25) |
| 5            | HW   | 50F-HW-30   | 5.24 (133) | 5 (127) | 2.75       | (1.25) |
| 6            | MW   | 60F-MW-30   | 6.20 (157) | 5 (127) | 2.97       | (1.35) |
| 6            | HW   | 60F-HW-30   | 6.24 (158) | 5 (127) | 2.97       | (1.35) |

| Nominal Size | Type | Item No.  | D          | L       | Weight lbs | kg     |
|--------------|------|-----------|------------|---------|------------|--------|
| ¾            | XW   | 07E-XW-30 | 1.44 (36)  | 3 (76)  | 0.11       | (0.05) |
| 1            | XW   | 10E-XW-30 | 1.70 (43)  | 3 (76)  | 0.22       | (0.10) |
| 1¼           | XW   | 12E-XW-30 | 2.05 (52)  | 3 (76)  | 0.35       | (0.16) |
| 1½           | XW   | 15E-XW-30 | 2.29 (58)  | 3 (76)  | 0.49       | (0.22) |
| 2            | XW   | 20F-XW-30 | 2.52 (64)  | 5 (127) | 0.85       | (0.39) |
| 3            | XW   | 30F-XW-30 | 3.52 (89)  | 5 (127) | 1.28       | (0.58) |
| 4            | XW   | 40F-XW-30 | 4.52 (115) | 7 (165) | 2.09       | (0.95) |
| 5            | XW   | 50F-XW-30 | 5.52 (140) | 7 (165) | 2.75       | (1.25) |
| 6            | XW   | 60F-XW-30 | 6.52 (166) | 7 (165) | 2.97       | (1.35) |



### MALE ADAPTER

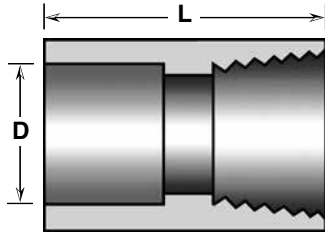
(Tapered Threads)

Male adapters with tapered threads (NPT) are generally used for joining to female threads of rigid steel, Myers type hubs or terminating into precast iron boxes with female thread entrances.

| Nominal Size | Type | IPS Item No. | D          | L       | Weight lbs | kg    |
|--------------|------|--------------|------------|---------|------------|-------|
| ¾            | SW   | 07E-SW-33    | 1.06 (27)  | 3 (76)  | 0.08       | (.04) |
| 1            | SW   | 10E-SW-33    | 1.32 (34)  | 3 (76)  | 0.08       | (.04) |
| 1¼           | SW   | 12E-SW-33    | 1.67 (42)  | 3 (76)  | 0.15       | (.07) |
| 1½           | SW   | 15E-SW-33    | 1.91 (49)  | 3 (76)  | 0.15       | (.07) |
| 2            | SW   | 20E-SW-33    | 2.40 (61)  | 5 (127) | 0.44       | (.20) |
| 3            | SW   | 30E-SW-33    | 3.52 (89)  | 5 (127) | 0.64       | (.29) |
| 4            | SW   | 40E-SW-33    | 4.47 (114) | 5 (127) | 0.93       | (.42) |
| 4            | HW   | 40E-HW-33    | 4.52 (115) | 5 (127) | 0.97       | (.44) |
| 5            | MW   | 50E-MW-33    | 5.59 (142) | 5 (127) | 1.30       | (.59) |
| 5            | HW   | 50E-HW-33    | 5.63 (143) | 5 (127) | 1.15       | (.52) |
| 6            | MW   | 60E-MW-33    | 6.66 (169) | 5 (127) | 1.70       | (.77) |
| 6            | HW   | 60E-HW-33    | 6.69 (170) | 5 (127) | 1.40       | (.64) |

| Nominal Size | Type | ID Item No. | D          | L       | Weight lbs | kg    |
|--------------|------|-------------|------------|---------|------------|-------|
| 2            | SW   | 20F-SW-33   | 2.16 (55)  | 5 (127) | 0.43       | (.20) |
| 2½           | SW   | 25F-SW-33   | 2.66 (68)  | 5 (127) | 0.62       | (.28) |
| 3            | SW   | 30F-SW-33   | 3.16 (80)  | 5 (127) | 0.76       | (.35) |
| 3½           | SW   | 35F-SW-33   | 3.66 (93)  | 5 (127) | 0.86       | (.39) |
| 4            | SW   | 40F-SW-33   | 4.16 (106) | 5 (127) | 1.02       | (.46) |
| 4            | HW   | 40F-HW-33   | 4.20 (107) | 5 (127) | 0.95       | (.43) |
| 4½           | SW   | 45F-SW-33   | 4.66 (118) | 5 (127) | 1.22       | (.55) |
| 4½           | HW   | 45F-HW-33   | 4.70 (119) | 5 (127) | 1.15       | (.52) |
| 5            | MW   | 50F-MW-33   | 5.20 (132) | 5 (127) | 1.30       | (.59) |
| 5            | HW   | 50F-HW-33   | 5.24 (133) | 5 (127) | 1.18       | (.54) |
| 6            | MW   | 60F-MW-33   | 6.20 (157) | 5 (127) | 1.40       | (.64) |
| 6            | HW   | 60F-HW-33   | 6.24 (158) | 5 (127) | 1.30       | (.59) |

| Nominal Size | Type | Item No.  | D          | L       | Weight lbs | kg     |
|--------------|------|-----------|------------|---------|------------|--------|
| ¾            | XW   | 07E-XW-33 | 1.44 (36)  | 3 (76)  | 0.09       | (0.04) |
| 1            | XW   | 10E-XW-33 | 1.70 (43)  | 3 (76)  | 0.19       | (0.09) |
| 1¼           | XW   | 12E-XW-33 | 2.05 (52)  | 3 (76)  | 0.24       | (0.11) |
| 1½           | XW   | 15E-XW-33 | 2.29 (58)  | 3 (76)  | 0.35       | (0.16) |
| 2            | XW   | 20F-XW-33 | 2.52 (64)  | 5 (127) | 0.69       | (0.31) |
| 2½           | XW   | 25F-XW-33 | 3.03 (77)  | 5 (127) | 0.85       | (0.38) |
| 3            | XW   | 30F-XW-33 | 3.52 (89)  | 5 (127) | 1.00       | (0.45) |
| 3½           | XW   | 35F-XW-33 | 4.03 (102) | 5 (127) | 1.28       | (0.58) |
| 4            | XW   | 40F-XW-33 | 4.52 (115) | 7 (178) | 1.56       | (0.71) |
| 5            | XW   | 50F-XW-33 | 5.52 (140) | 7 (178) | 2.08       | (0.94) |
| 6            | XW   | 60F-XW-33 | 6.52 (166) | 7 (178) | 2.47       | (1.12) |



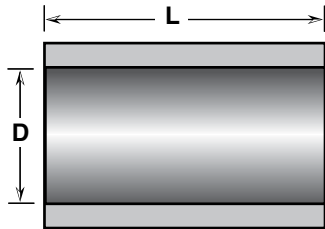
### FEMALE TERMINAL ADAPTER

This adapter is generally used for joining phenolic conduit with galvanized rigid steel (GRS) conduit. It has the same threads as GRS conduit and can easily be attached to GRS conduit.

| Nominal Size | Type | IPS Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|--------------|------------|---------|------------|--------|
| ¾            | SW   | 07E-SW-32    | 1.06 (27)  | 3 (76)  | 0.07       | (0.03) |
| 1            | SW   | 10E-SW-32    | 1.32 (34)  | 3 (76)  | 0.13       | (0.06) |
| 1¼           | SW   | 12E-SW-32    | 1.67 (42)  | 3 (76)  | 0.18       | (0.08) |
| 1½           | SW   | 15E-SW-32    | 1.91 (49)  | 3 (76)  | 0.21       | (0.10) |
| 2            | SW   | 20E-SW-32    | 2.40 (61)  | 5 (127) | 0.47       | (0.21) |
| 3            | SW   | 30E-SW-32    | 3.52 (89)  | 5 (127) | 0.80       | (0.36) |
| 4            | SW   | 40E-SW-32    | 4.47 (114) | 5 (127) | 1.05       | (0.48) |
| 4            | HW   | 40E-HW-32    | 4.52 (115) | 5 (127) | 1.00       | (0.45) |
| 5            | MW   | 50E-MW-32    | 5.59 (142) | 5 (127) | 1.05       | (0.48) |
| 5            | HW   | 50E-HW-32    | 5.63 (143) | 5 (127) | 1.00       | (0.45) |
| 6            | MW   | 60E-MW-32    | 6.66 (169) | 5 (127) | 1.10       | (0.50) |
| 6            | HW   | 60E-HW-32    | 6.69 (170) | 5 (127) | 1.05       | (0.48) |

| Nominal Size | Type | ID Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|-------------|------------|---------|------------|--------|
| 2            | SW   | 20F-SW-32   | 2.16 (55)  | 5 (127) | 0.75       | (0.34) |
| 2½           | SW   | 25F-SW-32   | 2.66 (55)  | 5 (127) | 1.00       | (0.45) |
| 3            | SW   | 30F-SW-32   | 3.16 (80)  | 5 (127) | 1.08       | (0.49) |
| 3½           | SW   | 35F-SW-32   | 3.66 (93)  | 5 (127) | 1.18       | (0.54) |
| 4            | SW   | 40F-SW-32   | 4.16 (106) | 5 (127) | 1.25       | (0.57) |
| 4            | HW   | 40F-HW-32   | 4.20 (107) | 5 (127) | 1.08       | (0.49) |
| 4½           | SW   | 45F-SW-32   | 4.66 (118) | 5 (127) | 1.50       | (0.68) |
| 4½           | HW   | 45F-HW-32   | 4.70 (119) | 5 (127) | 1.40       | (0.64) |
| 5            | MW   | 50F-MW-32   | 5.20 (132) | 5 (127) | 1.75       | (0.80) |
| 5            | HW   | 50F-HW-32   | 5.24 (133) | 5 (127) | 1.65       | (0.75) |
| 6            | MW   | 60F-MW-32   | 6.20 (157) | 5 (127) | 2.00       | (0.91) |
| 6            | HW   | 60F-HW-32   | 6.24 (158) | 5 (127) | 1.83       | (0.83) |

| Nominal Size | Type | Item No.  | D          | L       | Weight lbs | kg     |
|--------------|------|-----------|------------|---------|------------|--------|
| ¾            | XW   | 07E-XW-32 | 1.44 (36)  | 3 (76)  | 0.30       | (0.14) |
| 1            | XW   | 10E-XW-32 | 1.70 (43)  | 3 (76)  | 0.38       | (0.17) |
| 1¼           | XW   | 12E-XW-32 | 2.05 (52)  | 3 (76)  | 0.45       | (0.20) |
| 1½           | XW   | 15E-XW-32 | 2.29 (58)  | 3 (76)  | 0.60       | (0.27) |
| 2            | XW   | 20F-XW-32 | 2.52 (64)  | 5 (127) | 1.20       | (0.55) |
| 2½           | XW   | 25F-XW-32 | 3.03 (77)  | 5 (127) | 0.85       | (0.38) |
| 3            | XW   | 30F-XW-32 | 3.52 (89)  | 5 (127) | 1.40       | (0.64) |
| 3½           | XW   | 35F-XW-32 | 4.03 (102) | 5 (127) | 1.28       | (0.58) |
| 4            | XW   | 40F-XW-32 | 4.52 (115) | 7 (178) | 2.08       | (0.94) |
| 5            | XW   | 50F-XW-32 | 5.52 (140) | 7 (178) | 2.60       | (1.18) |
| 6            | XW   | 60F-XW-32 | 6.52 (166) | 7 (178) | 3.51       | (1.59) |

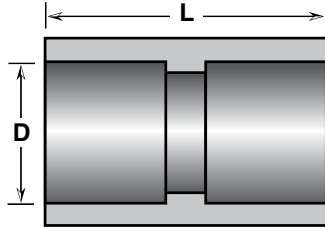


### SLEEVE COUPLING

| Nominal Size | Type | IPS Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|--------------|------------|---------|------------|--------|
| ¾            | SW   | 07E-SW-42    | 1.06 (27)  | 6 (152) | 0.06       | (0.03) |
| 1            | SW   | 10E-SW-42    | 1.32 (34)  | 6 (152) | 0.08       | (0.04) |
| 1¼           | SW   | 12E-SW-42    | 1.67 (42)  | 6 (152) | 0.10       | (0.05) |
| 1½           | SW   | 15E-SW-42    | 1.91 (49)  | 6 (152) | 0.11       | (0.05) |
| 2            | SW   | 20E-SW-42    | 2.40 (61)  | 6 (152) | 0.20       | (0.09) |
| 3            | SW   | 30E-SW-42    | 3.52 (89)  | 6 (152) | 0.30       | (0.14) |
| 4            | SW   | 40E-SW-42    | 4.47 (114) | 6 (152) | 0.36       | (0.16) |
| 4            | HW   | 40E-HW-42    | 4.52 (115) | 6 (152) | 0.50       | (0.23) |
| 5            | MW   | 50E-MW-42    | 5.59 (142) | 6 (152) | 0.60       | (0.27) |
| 5            | HW   | 50E-HW-42    | 5.63 (143) | 6 (152) | 0.70       | (0.32) |
| 6            | MW   | 60E-MW-42    | 6.66 (169) | 6 (152) | 0.80       | (0.36) |
| 6            | HW   | 60E-HW-42    | 6.69 (170) | 6 (152) | 0.90       | (0.41) |

| Nominal Size | Type | ID Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|-------------|------------|---------|------------|--------|
| 2            | SW   | 20F-SW-42   | 2.16 (55)  | 6 (152) | 0.17       | (0.08) |
| 2½           | SW   | 25F-SW-42   | 2.66 (68)  | 6 (152) | 0.21       | (0.10) |
| 3            | SW   | 30F-SW-42   | 3.16 (80)  | 6 (152) | 0.24       | (0.11) |
| 3½           | SW   | 35F-SW-42   | 3.66 (93)  | 6 (152) | 0.32       | (0.15) |
| 4            | SW   | 40F-SW-42   | 4.16 (106) | 6 (152) | 0.35       | (0.16) |
| 4            | HW   | 40F-HW-42   | 4.20 (107) | 6 (152) | 0.46       | (0.21) |
| 4½           | SW   | 45F-SW-42   | 4.66 (118) | 6 (152) | 0.38       | (0.17) |
| 4½           | HW   | 45F-HW-42   | 4.70 (119) | 6 (152) | 0.54       | (0.25) |
| 5            | MW   | 50F-MW-42   | 5.20 (132) | 6 (152) | 0.60       | (0.27) |
| 5            | HW   | 50F-HW-42   | 5.24 (133) | 6 (152) | 0.70       | (0.32) |
| 6            | MW   | 60F-MW-42   | 6.20 (157) | 6 (152) | 0.83       | (0.38) |
| 6            | HW   | 60F-HW-42   | 6.24 (158) | 6 (152) | 1.15       | (0.52) |

| Nominal Size | Type | Item No.  | D          | L        | Weight lbs | kg     |
|--------------|------|-----------|------------|----------|------------|--------|
| ¾            | XW   | 07E-XW-42 | 1.44 (36)  | 6 (152)  | 0.22       | (0.10) |
| 1            | XW   | 10E-XW-42 | 1.70 (43)  | 6 (152)  | 0.29       | (0.13) |
| 1¼           | XW   | 12E-XW-42 | 2.05 (52)  | 6 (152)  | 0.36       | (0.16) |
| 1½           | XW   | 15E-XW-42 | 2.29 (58)  | 6 (152)  | 0.39       | (0.18) |
| 2            | XW   | 20F-XW-42 | 2.52 (64)  | 6 (152)  | 0.53       | (0.24) |
| 2½           | XW   | 25F-XW-42 | 3.03 (77)  | 6 (152)  | 0.77       | (0.35) |
| 3            | XW   | 30F-XW-42 | 3.52 (89)  | 6 (152)  | 0.75       | (0.34) |
| 3½           | XW   | 35F-XW-42 | 4.03 (102) | 6 (152)  | 1.12       | (0.51) |
| 4            | XW   | 40F-XW-42 | 4.52 (115) | 10 (254) | 1.50       | (0.68) |
| 5            | XW   | 50F-XW-42 | 5.52 (140) | 10 (254) | 2.08       | (0.94) |
| 6            | XW   | 60F-XW-42 | 6.52 (166) | 10 (254) | 2.50       | (1.13) |



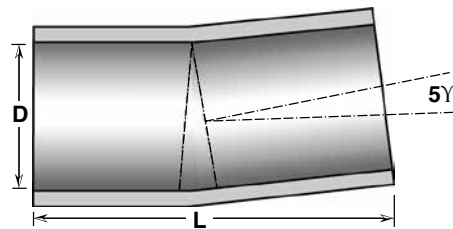
### STOP COUPLING

Stop coupling is sometimes referred to as a double bell coupling.

| Nominal Size | Type | IPS Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|--------------|------------|---------|------------|--------|
| ¾            | SW   | 07E-SW-40    | 1.06 (27)  | 6 (152) | 0.07       | (0.03) |
| 1            | SW   | 10E-SW-40    | 1.32 (34)  | 6 (152) | 0.08       | (0.04) |
| 1¼           | SW   | 12E-SW-40    | 1.67 (42)  | 6 (152) | 0.09       | (0.04) |
| 1½           | SW   | 15E-SW-40    | 1.91 (49)  | 6 (152) | 0.11       | (0.05) |
| 2            | SW   | 20E-SW-40    | 2.40 (61)  | 6 (152) | 0.20       | (0.10) |
| 3            | SW   | 30E-SW-40    | 3.52 (89)  | 6 (152) | 0.30       | (0.14) |
| 4            | SW   | 40E-SW-40    | 4.47 (114) | 6 (152) | 0.43       | (0.20) |
| 4            | HW   | 40E-HW-40    | 4.52 (115) | 6 (152) | 0.58       | (0.26) |
| 5            | MW   | 50E-MW-40    | 5.59 (142) | 6 (152) | 0.70       | (0.31) |
| 5            | HW   | 50E-HW-40    | 5.63 (143) | 6 (152) | 0.90       | (0.41) |
| 6            | MW   | 60E-MW-40    | 6.66 (169) | 6 (152) | 0.85       | (0.39) |
| 6            | HW   | 60E-HW-40    | 6.69 (170) | 6 (152) | 0.95       | (0.43) |

| Nominal Size | Type | ID Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|-------------|------------|---------|------------|--------|
| 2            | SW   | 20F-SW-40   | 2.16 (55)  | 6 (152) | 0.20       | (0.09) |
| 2½           | SW   | 25F-SW-40   | 2.66 (68)  | 6 (152) | 0.25       | (0.11) |
| 3            | SW   | 30F-SW-40   | 3.16 (80)  | 6 (152) | 0.30       | (0.14) |
| 3½           | SW   | 35F-SW-40   | 3.66 (93)  | 6 (152) | 0.35       | (0.16) |
| 4            | SW   | 40F-SW-40   | 4.16 (106) | 6 (152) | 0.40       | (0.18) |
| 4            | HW   | 40F-HW-40   | 4.20 (107) | 6 (152) | 0.54       | (0.25) |
| 4½           | SW   | 45F-SW-40   | 4.66 (118) | 6 (152) | 0.45       | (0.20) |
| 4½           | HW   | 45F-HW-40   | 4.70 (119) | 6 (152) | 0.60       | (0.27) |
| 5            | MW   | 50F-MW-40   | 5.20 (132) | 6 (152) | 0.68       | (0.31) |
| 5            | HW   | 50F-HW-40   | 5.24 (133) | 6 (152) | 0.80       | (0.36) |
| 6            | MW   | 60F-MW-40   | 6.20 (157) | 6 (152) | 0.80       | (0.36) |
| 6            | HW   | 60F-HW-40   | 6.24 (158) | 6 (152) | 0.92       | (0.42) |

| Nominal Size | Type | Item No.  | D          | L        | Weight lbs | kg     |
|--------------|------|-----------|------------|----------|------------|--------|
| ¾            | XW   | 07E-XW-40 | 1.44 (36)  | 6 (152)  | 0.22       | (0.10) |
| 1            | XW   | 10E-XW-40 | 1.70 (43)  | 6 (152)  | 0.29       | (0.13) |
| 1¼           | XW   | 12E-XW-40 | 2.05 (52)  | 6 (152)  | 0.36       | (0.16) |
| 1½           | XW   | 15E-XW-40 | 2.29 (58)  | 6 (152)  | 0.39       | (0.18) |
| 2            | XW   | 20F-XW-40 | 2.52 (64)  | 6 (152)  | 0.65       | (0.29) |
| 2½           | XW   | 25F-XW-40 | 3.03 (77)  | 6 (152)  | 0.77       | (0.35) |
| 3            | XW   | 30F-XW-40 | 3.52 (89)  | 6 (152)  | 0.95       | (0.43) |
| 3½           | XW   | 35F-XW-40 | 4.03 (102) | 6 (152)  | 1.12       | (0.51) |
| 4            | XW   | 40F-XW-40 | 4.52 (115) | 10 (254) | 2.00       | (0.91) |
| 5            | XW   | 50F-XW-40 | 5.52 (140) | 10 (254) | 2.50       | (1.13) |
| 6            | XW   | 60F-XW-40 | 6.52 (166) | 10 (254) | 2.90       | (1.32) |



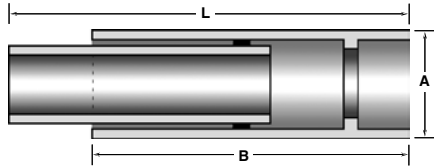
### 5° DOUBLE BELL COUPLING

Other angles can also be manufactured, such as 2.5° etc. Please contact factory for consultation.

| Nominal Size | Type | IPS Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|--------------|------------|---------|------------|--------|
| ¾            | SW   | 07E-SW-44    | 1.06 (27)  | 6 (152) | 0.07       | (0.03) |
| 1            | SW   | 10E-SW-44    | 1.32 (34)  | 6 (152) | 0.09       | (0.04) |
| 1¼           | SW   | 12E-SW-44    | 1.67 (42)  | 6 (152) | 0.11       | (0.05) |
| 1½           | SW   | 15E-SW-44    | 1.91 (49)  | 6 (165) | 0.13       | (0.06) |
| 2            | SW   | 20E-SW-44    | 2.40 (61)  | 6 (152) | 0.22       | (0.10) |
| 3            | SW   | 30E-SW-44    | 3.52 (89)  | 6 (152) | 0.32       | (0.46) |
| 4            | SW   | 40E-SW-44    | 4.47 (114) | 6 (152) | 0.40       | (0.18) |
| 4            | HW   | 40E-HW-44    | 4.52 (115) | 6 (152) | 0.60       | (0.27) |
| 5            | MW   | 50E-MW-44    | 5.59 (142) | 6 (152) | 0.65       | (0.30) |
| 5            | HW   | 50E-HW-44    | 5.63 (143) | 6 (152) | 0.75       | (0.34) |
| 6            | MW   | 60E-MW-44    | 6.66 (169) | 6 (152) | 0.85       | (0.39) |
| 6            | HW   | 60E-HW-44    | 6.69 (170) | 6 (152) | 0.95       | (0.43) |

| Nominal Size | Type | ID Item No. | D          | L       | Weight lbs | kg     |
|--------------|------|-------------|------------|---------|------------|--------|
| 2            | SW   | 20F-SW-44   | 2.16 (55)  | 6 (152) | 0.18       | (0.08) |
| 2½           | SW   | 25F-SW-44   | 2.66 (68)  | 6 (152) | 0.22       | (0.10) |
| 3            | SW   | 30F-SW-44   | 3.16 (80)  | 6 (152) | 0.25       | (0.11) |
| 3½           | SW   | 35F-SW-44   | 3.66 (93)  | 6 (152) | 0.32       | (0.15) |
| 4            | SW   | 40F-SW-44   | 4.16 (106) | 6 (152) | 0.36       | (0.16) |
| 4            | HW   | 40F-HW-44   | 4.20 (107) | 6 (152) | 0.48       | (0.22) |
| 4½           | SW   | 45F-SW-44   | 4.66 (118) | 6 (152) | 0.40       | (0.18) |
| 4½           | HW   | 45F-HW-44   | 4.70 (119) | 6 (152) | 0.56       | (0.25) |
| 5            | MW   | 50F-MW-44   | 5.20 (132) | 6 (152) | 0.63       | (0.29) |
| 5            | HW   | 50F-HW-44   | 5.24 (133) | 6 (152) | 0.73       | (0.33) |
| 6            | MW   | 60F-MW-44   | 6.20 (157) | 6 (152) | 0.85       | (0.39) |
| 6            | HW   | 60F-HW-44   | 6.24 (158) | 6 (152) | 1.20       | (0.55) |

| Nominal Size | Type | Item No.  | D          | L        | Weight lbs | kg     |
|--------------|------|-----------|------------|----------|------------|--------|
| ¾            | XW   | 07E-XW-44 | 1.44 (36)  | 6 (152)  | 0.22       | (0.10) |
| 1            | XW   | 10E-XW-44 | 1.70 (43)  | 6 (152)  | 0.29       | (0.13) |
| 1¼           | XW   | 12E-XW-44 | 2.05 (52)  | 6 (152)  | 0.36       | (0.16) |
| 1½           | XW   | 15E-XW-44 | 2.29 (58)  | 6 (152)  | 0.39       | (0.18) |
| 2            | XW   | 20F-XW-44 | 2.52 (64)  | 6 (152)  | 0.55       | (0.25) |
| 2½           | XW   | 25F-XW-44 | 3.03 (77)  | 6 (152)  | 0.77       | (0.35) |
| 3            | XW   | 30F-XW-44 | 3.52 (89)  | 6 (152)  | 0.89       | (0.40) |
| 3½           | XW   | 35F-XW-44 | 4.03 (102) | 6 (152)  | 1.02       | (0.51) |
| 4            | XW   | 40F-XW-44 | 4.52 (115) | 10 (254) | 1.53       | (0.67) |
| 5            | XW   | 50F-XW-44 | 5.52 (140) | 10 (254) | 2.17       | (0.98) |
| 6            | XW   | 60F-XW-44 | 6.52 (166) | 10 (254) | 2.55       | (1.16) |

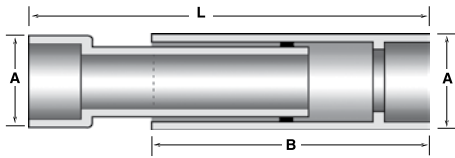


## SINGLE EXPANSION JOINT SOCKET X SPIGOT WITH O-RING

Installation of Expansion Joints:

- When the duct is shorter than 100 ft., no Expansion Joint needed
- When the duct is between 100 ft. up to 300 ft., install one Expansion Joint at the mid point
- If the duct is longer than 300 ft., install one Expansion Joint every 300 ft. apart

*Note: All Expansion Joints have a yellow line on the nipple end of the joint for proper installation.*



## SINGLE EXPANSION JOINT SOCKET X SOCKET WITH O-RING

Installation of Expansion Joints:

- When the duct is shorter than 100 ft., no Expansion Joint needed
- When the duct is between 100 ft. up to 300 ft., install one Expansion Joint at the mid point
- If the duct is longer than 300 ft., install one Expansion Joint every 300 ft. apart

*Note: All Expansion Joints have a yellow line on the nipple end of the joint for proper installation.*

| Nominal Size | Type | IPS Item No. | A          | B        | L - Min  | L - Max  | Weight lbs | kg     |
|--------------|------|--------------|------------|----------|----------|----------|------------|--------|
| ¾            | SW   | 07E-SW-36    | 1.20 (30)  | 12 (305) | 15 (381) | 23 (584) | 0.39       | (0.18) |
| 1            | SW   | 10E-SW-36    | 1.46 (37)  | 12 (305) | 15 (381) | 23 (584) | 0.44       | (0.20) |
| 1¼           | SW   | 12E-SW-36    | 1.81 (46)  | 12 (305) | 15 (381) | 23 (584) | 0.53       | (0.24) |
| 1½           | SW   | 15E-SW-36    | 2.04 (52)  | 12 (305) | 15 (381) | 23 (584) | 0.76       | (0.35) |
| 2            | SW   | 20E-SW-36    | 2.54 (65)  | 12 (305) | 15 (381) | 23 (584) | 0.87       | (0.40) |
| 3            | SW   | 30E-SW-36    | 3.66 (93)  | 12 (305) | 15 (381) | 23 (584) | 1.38       | (0.63) |
| 4            | SW   | 40E-SW-36    | 4.61 (117) | 12 (305) | 15 (381) | 23 (584) | 1.66       | (0.75) |
| 4            | HW   | 40E-HW-36    | 4.69 (119) | 12 (305) | 15 (381) | 23 (584) | 2.23       | (1.01) |
| 5            | MW   | 50E-MW-36    | 5.79 (147) | 12 (305) | 15 (381) | 23 (584) | 2.76       | (1.25) |
| 5            | HW   | 50E-HW-36    | 5.85 (149) | 12 (305) | 15 (381) | 23 (584) | 2.99       | (1.36) |
| 6            | MW   | 60E-MW-36    | 6.85 (174) | 12 (305) | 15 (381) | 23 (584) | 3.27       | (1.49) |
| 6            | HW   | 60E-HW-36    | 6.91 (176) | 12 (305) | 15 (381) | 23 (584) | 3.75       | (1.70) |

| Nominal Size | Type | ID Item No. | A          | B        | L - Min  | L - Max  | Weight lbs | kg     |
|--------------|------|-------------|------------|----------|----------|----------|------------|--------|
| 2            | SW   | 20F-SW-36   | 2.30 (58)  | 12 (305) | 15 (381) | 23 (584) | 0.78       | (0.35) |
| 2½           | SW   | 25F-SW-36   | 2.80 (71)  | 12 (305) | 15 (381) | 23 (584) | 0.97       | (0.44) |
| 3            | SW   | 30F-SW-36   | 3.30 (84)  | 12 (305) | 15 (381) | 23 (584) | 1.10       | (0.50) |
| 3½           | SW   | 35F-SW-36   | 3.80 (96)  | 12 (305) | 15 (381) | 23 (584) | 1.38       | (0.63) |
| 4            | SW   | 40F-SW-36   | 4.30 (109) | 12 (305) | 15 (381) | 23 (584) | 1.59       | (0.72) |
| 4            | HW   | 40F-HW-36   | 4.39 (111) | 12 (305) | 15 (381) | 23 (584) | 2.12       | (0.96) |
| 4½           | SW   | 45F-SW-36   | 4.80 (122) | 12 (305) | 15 (381) | 23 (584) | 1.73       | (0.79) |
| 4½           | HW   | 45F-HW-36   | 4.89 (124) | 12 (305) | 15 (381) | 23 (584) | 2.39       | (1.09) |
| 5            | MW   | 50F-MW-36   | 5.39 (137) | 12 (305) | 15 (381) | 23 (584) | 2.60       | (1.18) |
| 5            | HW   | 50F-HW-36   | 5.42 (138) | 12 (305) | 15 (381) | 23 (584) | 3.04       | (1.38) |
| 6            | MW   | 60F-MW-36   | 6.39 (162) | 12 (305) | 15 (381) | 23 (584) | 3.11       | (1.41) |
| 6            | HW   | 60F-HW-36   | 6.42 (163) | 12 (305) | 15 (381) | 23 (584) | 3.63       | (1.65) |

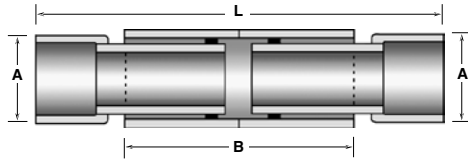
| Nominal Size | Type | Item No.  | A          | B        | L - Min  | L - Max  | Weight lbs | kg     |
|--------------|------|-----------|------------|----------|----------|----------|------------|--------|
| ¾            | XW   | 07E-XW-36 | 1.94 (54)  | 12 (305) | 15 (381) | 23 (584) | 1.40       | (0.64) |
| 1            | XW   | 10E-XW-36 | 2.20 (61)  | 12 (305) | 15 (381) | 23 (584) | 1.57       | (0.71) |
| 1¼           | XW   | 12E-XW-36 | 2.55 (65)  | 12 (305) | 15 (381) | 23 (584) | 1.89       | (0.86) |
| 1½           | XW   | 15E-XW-36 | 2.79 (71)  | 12 (305) | 15 (381) | 23 (584) | 2.72       | (1.23) |
| 2            | XW   | 20F-XW-36 | 3.00 (76)  | 12 (305) | 15 (381) | 23 (584) | 2.90       | (1.32) |
| 2½           | XW   | 25F-XW-36 | 3.53 (90)  | 12 (305) | 15 (381) | 23 (584) | 3.56       | (1.61) |
| 3            | XW   | 30F-XW-36 | 4.00 (102) | 12 (305) | 15 (381) | 23 (584) | 4.19       | (1.90) |
| 3½           | XW   | 35F-XW-36 | 4.53 (115) | 12 (305) | 15 (381) | 23 (584) | 4.83       | (2.19) |
| 4            | XW   | 40F-XW-36 | 5.00 (127) | 14 (356) | 19 (482) | 27 (686) | 6.42       | (2.92) |
| 5            | XW   | 50F-XW-36 | 6.00 (152) | 14 (356) | 19 (482) | 27 (686) | 7.94       | (3.60) |
| 6            | XW   | 60F-XW-36 | 7.00 (178) | 14 (356) | 19 (482) | 27 (686) | 10.06      | (4.57) |

| Nominal Size | Type | IPS Item No. | A          | B        | L - Min  | L - Max  | Weight lbs | kg     |
|--------------|------|--------------|------------|----------|----------|----------|------------|--------|
| ¾            | SW   | 07E-SW-37    | 1.20 (30)  | 12 (305) | 18 (457) | 26 (660) | 0.49       | (0.22) |
| 1            | SW   | 10E-SW-37    | 1.46 (37)  | 12 (305) | 18 (457) | 26 (660) | 0.55       | (0.25) |
| 1¼           | SW   | 12E-SW-37    | 1.81 (46)  | 12 (305) | 18 (457) | 26 (660) | 0.66       | (0.30) |
| 1½           | SW   | 15E-SW-37    | 2.04 (52)  | 12 (305) | 18 (457) | 26 (660) | 0.76       | (0.35) |
| 2            | SW   | 20E-SW-37    | 2.54 (65)  | 12 (305) | 18 (457) | 26 (660) | 1.09       | (0.50) |
| 3            | SW   | 30E-SW-37    | 3.66 (93)  | 12 (305) | 18 (457) | 26 (660) | 1.73       | (0.79) |
| 4            | SW   | 40E-SW-37    | 4.61 (117) | 12 (305) | 18 (457) | 26 (660) | 2.07       | (0.94) |
| 4            | HW   | 40E-HW-37    | 4.69 (119) | 12 (305) | 18 (457) | 26 (660) | 2.79       | (1.27) |
| 5            | MW   | 50E-MW-37    | 5.79 (147) | 12 (305) | 18 (457) | 26 (660) | 3.45       | (1.57) |
| 5            | HW   | 50E-HW-37    | 5.85 (149) | 12 (305) | 18 (457) | 26 (660) | 3.74       | (1.70) |
| 6            | MW   | 60E-MW-37    | 6.85 (174) | 12 (305) | 18 (457) | 26 (660) | 4.08       | (1.85) |
| 6            | HW   | 60E-HW-37    | 6.91 (176) | 12 (305) | 18 (457) | 26 (660) | 4.69       | (2.13) |

| Nominal Size | Type | ID Item No. | A          | B        | L - Min  | L - Max  | Weight lbs | kg     |
|--------------|------|-------------|------------|----------|----------|----------|------------|--------|
| 2            | SW   | 20F-SW-37   | 2.30 (58)  | 12 (305) | 18 (457) | 26 (660) | 0.98       | (0.45) |
| 2½           | SW   | 25F-SW-37   | 2.80 (71)  | 12 (305) | 18 (457) | 26 (660) | 1.21       | (0.55) |
| 3            | SW   | 30F-SW-37   | 3.30 (84)  | 12 (305) | 18 (457) | 26 (660) | 1.38       | (0.63) |
| 3½           | SW   | 35F-SW-37   | 3.80 (96)  | 12 (305) | 18 (457) | 26 (660) | 1.73       | (0.79) |
| 4            | SW   | 40F-SW-37   | 4.30 (109) | 12 (305) | 18 (457) | 26 (660) | 1.98       | (0.90) |
| 4            | HW   | 40F-HW-37   | 4.39 (111) | 12 (305) | 18 (457) | 26 (660) | 2.65       | (1.20) |
| 4½           | SW   | 45F-SW-37   | 4.80 (122) | 12 (305) | 18 (457) | 26 (660) | 2.16       | (0.98) |
| 4½           | HW   | 45F-HW-37   | 4.89 (124) | 12 (305) | 18 (457) | 26 (660) | 2.99       | (1.36) |
| 5            | MW   | 50F-MW-37   | 5.39 (137) | 12 (305) | 18 (457) | 26 (660) | 3.25       | (1.48) |
| 5            | HW   | 50F-HW-37   | 5.42 (138) | 12 (305) | 18 (457) | 26 (660) | 3.80       | (1.73) |
| 6            | MW   | 60F-MW-37   | 6.39 (162) | 12 (305) | 18 (457) | 26 (660) | 3.88       | (1.76) |
| 6            | HW   | 60F-HW-37   | 6.42 (163) | 12 (305) | 18 (457) | 26 (660) | 4.54       | (2.06) |

| Nominal Size | Type | Item No.  | A          | B        | L - Min  | L - Max  | Weight lbs | kg     |
|--------------|------|-----------|------------|----------|----------|----------|------------|--------|
| ¾            | XW   | 07E-XW-37 | 1.94 (54)  | 12 (305) | 15 (381) | 23 (584) | 1.76       | (0.80) |
| 1            | XW   | 10E-XW-37 | 2.20 (61)  | 12 (305) | 15 (381) | 23 (584) | 1.97       | (0.89) |
| 1¼           | XW   | 12E-XW-37 | 2.55 (65)  | 12 (305) | 15 (381) | 23 (584) | 2.35       | (1.07) |
| 1½           | XW   | 15E-XW-37 | 2.79 (71)  | 12 (305) | 15 (381) | 23 (584) | 2.72       | (1.23) |
| 2            | XW   | 20F-XW-37 | 3.00 (76)  | 12 (305) | 18 (457) | 26 (660) | 3.62       | (1.64) |
| 3            | XW   | 30F-XW-37 | 4.00 (102) | 12 (305) | 18 (457) | 26 (660) | 5.23       | (2.37) |
| 4            | XW   | 40F-XW-37 | 5.00 (127) | 14 (356) | 22 (559) | 32 (812) | 7.89       | (3.58) |
| 5            | XW   | 50F-XW-37 | 6.00 (152) | 14 (356) | 22 (559) | 32 (812) | 9.75       | (4.43) |
| 6            | XW   | 60F-XW-37 | 7.00 (178) | 14 (356) | 22 (559) | 32 (812) | 12.08      | (5.48) |
| 8            | XW   | 80E-XW-37 | 9.42 (239) | 14 (356) | 22 (559) | 32 (812) | 16.56      | (7.52) |





## DOUBLE EXPANSION JOINT WITH O-RING

Double expansion joint is sometimes referred to as back-to-back expansion joint.

Installation of Expansion Joints:

- When the duct is shorter than 100 ft., no Expansion Joint needed
- When the duct is between 100 ft. up to 300 ft., install one Expansion Joint at the mid point
- If the duct is longer than 300 ft., install one Expansion Joint every 300 ft. apart

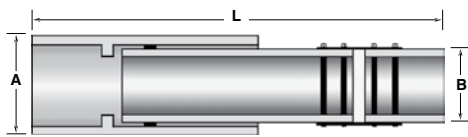
*Note: All Expansion Joints have a yellow line on the nipple end of the joint for proper installation.*

| Nominal Size | Type | IPS Item No. | A          | B        | L - Min  | L - Max   | Weight lbs | kg     |
|--------------|------|--------------|------------|----------|----------|-----------|------------|--------|
| ¾            | SW   | 07E-SW-39    | 1.20 (30)  | 17 (432) | 29 (737) | 45 (1143) | 0.84       | (0.38) |
| 1            | SW   | 10E-SW-39    | 1.46 (37)  | 17 (432) | 29 (737) | 45 (1143) | 0.94       | (0.43) |
| 1¼           | SW   | 12E-SW-39    | 1.81 (46)  | 17 (432) | 29 (737) | 45 (1143) | 1.14       | (0.52) |
| 1½           | SW   | 15E-SW-39    | 2.04 (52)  | 17 (432) | 29 (737) | 45 (1143) | 1.63       | (0.74) |
| 2            | SW   | 20E-SW-39    | 2.54 (65)  | 17 (432) | 29 (737) | 45 (1143) | 1.88       | (0.85) |
| 3            | SW   | 30E-SW-39    | 3.66 (93)  | 17 (432) | 29 (737) | 45 (1143) | 2.97       | (1.35) |
| 4            | SW   | 40E-SW-39    | 4.61 (117) | 17 (432) | 29 (737) | 45 (1143) | 3.56       | (1.62) |
| 4            | HW   | 40E-HW-39    | 4.69 (119) | 17 (432) | 29 (737) | 45 (1143) | 4.80       | (2.18) |
| 5            | MW   | 50E-MW-39    | 5.79 (147) | 17 (432) | 29 (737) | 45 (1143) | 5.94       | (2.70) |
| 5            | HW   | 50E-HW-39    | 5.85 (149) | 17 (432) | 29 (737) | 45 (1143) | 6.44       | (2.92) |
| 6            | MW   | 60E-MW-39    | 6.85 (174) | 17 (432) | 29 (737) | 45 (1143) | 7.03       | (3.19) |
| 6            | HW   | 60E-HW-39    | 6.91 (176) | 17 (432) | 29 (737) | 45 (1143) | 8.07       | (3.66) |

| Nominal Size | Type | ID Item No. | A          | B        | L - Min  | L - Max   | Weight lbs | kg     |
|--------------|------|-------------|------------|----------|----------|-----------|------------|--------|
| 2            | SW   | 20F-SW-39   | 2.30 (58)  | 17 (432) | 29 (737) | 45 (1143) | 1.68       | (0.76) |
| 2½           | SW   | 25F-SW-39   | 2.80 (71)  | 17 (432) | 29 (737) | 45 (1143) | 2.08       | (0.94) |
| 3            | SW   | 30F-SW-39   | 3.30 (84)  | 17 (432) | 29 (737) | 45 (1143) | 2.38       | (1.08) |
| 3½           | SW   | 35F-SW-39   | 3.80 (96)  | 17 (432) | 29 (737) | 45 (1143) | 2.97       | (1.35) |
| 4            | SW   | 40F-SW-39   | 4.30 (109) | 17 (432) | 29 (737) | 45 (1143) | 3.42       | (1.55) |
| 4            | HW   | 40F-HW-39   | 4.39 (111) | 17 (432) | 29 (737) | 45 (1143) | 4.55       | (2.07) |
| 4½           | SW   | 45F-SW-39   | 4.80 (122) | 17 (432) | 29 (737) | 45 (1143) | 3.71       | (1.68) |
| 4½           | HW   | 45F-HW-39   | 4.89 (124) | 17 (432) | 29 (737) | 45 (1143) | 5.15       | (2.34) |
| 5            | MW   | 50F-MW-39   | 5.39 (137) | 17 (432) | 29 (737) | 45 (1143) | 5.59       | (2.54) |
| 5            | HW   | 50F-HW-39   | 5.42 (138) | 17 (432) | 29 (737) | 45 (1143) | 6.53       | (2.97) |
| 6            | MW   | 60F-MW-39   | 6.39 (162) | 17 (432) | 29 (737) | 45 (1143) | 6.68       | (3.03) |
| 6            | HW   | 60F-HW-39   | 6.42 (163) | 17 (432) | 29 (737) | 45 (1143) | 7.82       | (3.55) |

| Nominal Size | Type | Item No.  | A          | B        | L - Min  | L - Max   | Weight lbs | kg     |
|--------------|------|-----------|------------|----------|----------|-----------|------------|--------|
| ¾            | XW   | 07E-XW-39 | 1.94 (54)  | 17 (432) | 29 (737) | 45 (1143) | 3.01       | (1.37) |
| 1            | XW   | 10E-XW-39 | 2.20 (61)  | 17 (432) | 29 (737) | 45 (1143) | 3.36       | (1.53) |
| 1¼           | XW   | 12E-XW-39 | 2.55 (65)  | 17 (432) | 29 (737) | 45 (1143) | 4.06       | (1.84) |
| 1½           | XW   | 15E-XW-39 | 2.79 (71)  | 17 (432) | 29 (737) | 45 (1143) | 5.83       | (2.65) |
| 2            | XW   | 20F-XW-39 | 3.00 (76)  | 17 (432) | 29 (737) | 45 (1143) | 6.24       | (2.83) |
| 2½           | XW   | 25F-XW-39 | 3.53 (90)  | 17 (432) | 29 (737) | 45 (1143) | 7.63       | (3.46) |
| 3            | XW   | 30F-XW-39 | 4.00 (102) | 17 (432) | 29 (737) | 45 (1143) | 9.01       | (4.09) |
| 3½           | XW   | 35F-XW-39 | 4.53 (115) | 17 (432) | 29 (737) | 45 (1143) | 10.42      | (4.72) |
| 4            | XW   | 40F-XW-39 | 5.00 (127) | 17 (432) | 29 (737) | 45 (1143) | 11.78      | (5.35) |
| 5            | XW   | 50F-XW-39 | 6.00 (152) | 17 (432) | 29 (737) | 45 (1143) | 14.55      | (6.61) |
| 6            | XW   | 60F-XW-39 | 7.00 (178) | 17 (432) | 29 (737) | 45 (1143) | 19.25      | (8.74) |

| Nominal Size | Type | IPS Item No. | A          | B         | L - Min  | L - Max   | Weight lbs | kg     |
|--------------|------|--------------|------------|-----------|----------|-----------|------------|--------|
| ¾            | SW   | 07E-SW-31    | 1.20 (30)  | 1.1 (27)  | 37 (940) | 51 (1295) | 1.19       | (0.54) |
| 1            | SW   | 10E-SW-31    | 1.46 (37)  | 1.3 (34)  | 37 (940) | 51 (1295) | 1.33       | (0.60) |
| 1¼           | SW   | 12E-SW-31    | 1.81 (46)  | 1.7 (42)  | 37 (940) | 51 (1295) | 1.61       | (0.73) |
| 1½           | SW   | 15E-SW-31    | 2.04 (52)  | 1.9 (49)  | 37 (940) | 51 (1295) | 2.31       | (1.05) |
| 2            | SW   | 20E-SW-31    | 2.54 (65)  | 2.4 (61)  | 37 (940) | 51 (1295) | 2.66       | (1.21) |
| 3            | SW   | 30E-SW-31    | 3.66 (93)  | 3.5 (89)  | 37 (940) | 51 (1295) | 4.20       | (1.91) |
| 4            | SW   | 40E-SW-31    | 4.61 (117) | 4.5 (114) | 37 (940) | 51 (1295) | 5.04       | (2.29) |
| 4            | HW   | 40E-HW-31    | 4.69 (119) | 4.5 (115) | 37 (940) | 51 (1295) | 6.79       | (3.08) |
| 5            | MW   | 50E-MW-31    | 5.79 (147) | 5.6 (142) | 37 (940) | 51 (1295) | 8.40       | (3.81) |
| 5            | HW   | 50E-HW-31    | 5.85 (149) | 5.6 (143) | 37 (940) | 51 (1295) | 9.10       | (4.13) |
| 6            | MW   | 60E-MW-31    | 6.85 (174) | 6.6 (167) | 37 (940) | 51 (1295) | 9.94       | (4.51) |
| 6            | HW   | 60E-HW-31    | 6.91 (176) | 6.6 (168) | 37 (940) | 51 (1295) | 11.41      | (5.18) |



## ALIGNMENT/EXPANSION FITTING, WITH O-RINGS

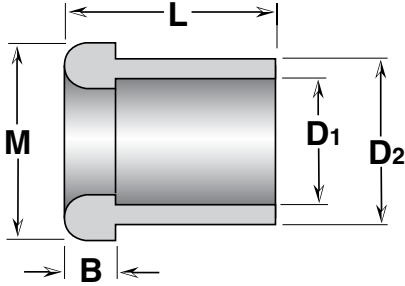
Alignment/Expansion fitting is sometimes referred to as an Expansion/Deflection joint.

*[The clamps holding the rubber sleeve connecting the two nipples are made from stainless steel for corrosion protection.]*

*Same instructions & note as above*

| Nominal Size | Type | ID Item No. | A          | B         | L - Min  | L - Max   | Weight lbs | kg     |
|--------------|------|-------------|------------|-----------|----------|-----------|------------|--------|
| 2            | SW   | 20F-SW-31   | 2.30 (58)  | 2.2 (55)  | 37 (940) | 51 (1295) | 2.38       | (1.08) |
| 2½           | SW   | 25F-SW-31   | 2.80 (71)  | 2.7 (68)  | 37 (940) | 51 (1295) | 2.94       | (1.34) |
| 3            | SW   | 30F-SW-31   | 3.30 (84)  | 3.2 (80)  | 37 (940) | 51 (1295) | 3.36       | (1.53) |
| 3½           | SW   | 35F-SW-31   | 3.80 (96)  | 3.7 (93)  | 37 (940) | 51 (1295) | 4.20       | (1.97) |
| 4            | SW   | 40F-SW-31   | 4.30 (109) | 4.2 (106) | 37 (940) | 51 (1295) | 4.83       | (2.19) |
| 4            | HW   | 40F-HW-31   | 4.39 (111) | 4.2 (107) | 37 (940) | 51 (1295) | 6.44       | (2.92) |
| 4½           | SW   | 45F-SW-31   | 4.80 (122) | 4.7 (118) | 37 (940) | 51 (1295) | 5.25       | (2.38) |
| 4½           | HW   | 45F-HW-31   | 4.89 (124) | 4.7 (119) | 37 (940) | 51 (1295) | 7.28       | (3.31) |
| 5            | MW   | 50F-MW-31   | 5.39 (137) | 5.2 (132) | 37 (940) | 51 (1295) | 7.91       | (3.59) |
| 5            | HW   | 50F-HW-31   | 5.42 (138) | 5.2 (133) | 37 (940) | 51 (1295) | 9.24       | (4.20) |
| 6            | MW   | 60F-MW-31   | 6.39 (162) | 6.2 (157) | 37 (940) | 51 (1295) | 9.45       | (4.29) |
| 6            | HW   | 60F-HW-31   | 6.42 (163) | 6.2 (158) | 37 (940) | 51 (1295) | 11.06      | (5.02) |

| Nominal Size | Type | Item No.  | A          | B           | L - Min  | L - Max   | Weight lbs | kg      |
|--------------|------|-----------|------------|-------------|----------|-----------|------------|---------|
| ¾            | XW   | 07E-XW-31 | 1.94 (54)  | 1.410 (36)  | 37 (940) | 51 (1295) | 4.27       | (1.94)  |
| 1            | XW   | 10E-XW-31 | 2.20 (61)  | 1.675 (43)  | 37 (940) | 51 (1295) | 4.76       | (2.16)  |
| 1¼           | XW   | 12E-XW-31 | 2.55 (65)  | 2.020 (51)  | 37 (940) | 51 (1295) | 5.74       | (2.60)  |
| 1½           | XW   | 15E-XW-31 | 2.79 (71)  | 2.260 (57)  | 37 (940) | 51 (1295) | 8.26       | (3.75)  |
| 2            | XW   | 20F-XW-31 | 3.00 (76)  | 2.500 (64)  | 37 (940) | 51 (1295) | 8.82       | (4.00)  |
| 2½           | XW   | 25F-XW-31 | 3.53 (90)  | 3.000 (76)  | 37 (940) | 51 (1295) | 10.78      | (4.89)  |
| 3            | XW   | 30F-XW-31 | 4.00 (102) | 3.500 (89)  | 37 (940) | 51 (1295) | 12.74      | (5.78)  |
| 3½           | XW   | 35F-XW-31 | 4.53 (115) | 4.000 (102) | 37 (940) | 51 (1295) | 14.70      | (6.67)  |
| 4            | XW   | 40F-XW-31 | 5.00 (127) | 4.500 (114) | 37 (940) | 51 (1295) | 16.66      | (7.56)  |
| 5            | XW   | 50F-XW-31 | 6.00 (152) | 5.500 (140) | 37 (940) | 51 (1295) | 20.58      | (9.34)  |
| 6            | XW   | 60F-XW-31 | 7.00 (178) | 6.500 (165) | 37 (940) | 51 (1295) | 24.50      | (11.12) |



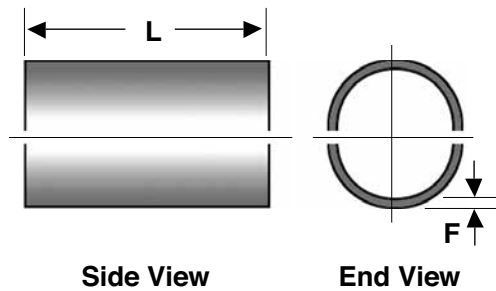
### END BELLS-SOCKET TYPE

End bells are used for creating a permanent termination into a box as well as having a smooth surface that the cable can be pulled over.

| Nominal Size | Type | IPS Item No. | D1         | D2         | L         | M          | Weight lbs  | kg |
|--------------|------|--------------|------------|------------|-----------|------------|-------------|----|
| ¾            | SW   | 07E-SW-29    | 1.06 (27)  | 1.20 (30)  | 1.60 (41) | 1.50 (38)  | 0.10 (0.05) |    |
| 1            | SW   | 10E-SW-29    | 1.32 (34)  | 1.46 (37)  | 1.60 (41) | 1.80 (46)  | 0.10 (0.05) |    |
| 1¼           | SW   | 12E-SW-29    | 1.67 (42)  | 1.81 (46)  | 1.60 (41) | 2.20 (56)  | 0.15 (0.07) |    |
| 1½           | SW   | 15E-SW-29    | 1.91 (49)  | 2.04 (52)  | 1.60 (41) | 2.40 (61)  | 0.20 (0.09) |    |
| 2            | SW   | 20E-SW-29    | 2.40 (61)  | 2.54 (61)  | 3.00 (76) | 2.94 (75)  | 0.40 (0.18) |    |
| 3            | SW   | 30E-SW-29    | 3.52 (89)  | 3.66 (93)  | 3.00 (76) | 4.06 (103) | 0.45 (0.20) |    |
| 4            | SW   | 40E-SW-29    | 4.47 (114) | 4.61 (117) | 3.00 (76) | 5.01 (127) | 0.80 (0.36) |    |
| 4            | HW   | 40E-HW-29    | 4.52 (115) | 4.69 (119) | 3.00 (76) | 5.09 (129) | 0.85 (0.38) |    |
| 5            | MW   | 50E-MW-29    | 5.59 (142) | 5.79 (147) | 3.00 (76) | 6.19 (157) | 0.95 (0.43) |    |
| 5            | HW   | 50E-HW-29    | 5.63 (143) | 5.85 (149) | 3.00 (76) | 6.25 (159) | 1.00 (0.45) |    |
| 6            | MW   | 60E-MW-29    | 6.66 (169) | 6.79 (172) | 3.00 (76) | 7.19 (183) | 1.10 (0.50) |    |
| 6            | HW   | 60E-HW-29    | 6.69 (170) | 6.85 (174) | 3.00 (76) | 7.25 (184) | 1.15 (0.52) |    |

| Nominal Size | Type | ID Item No. | D1         | D2         | L         | M          | Weight lbs  | kg |
|--------------|------|-------------|------------|------------|-----------|------------|-------------|----|
| 2            | SW   | 20F-SW-29   | 2.16 (55)  | 2.30 (58)  | 3.00 (76) | 2.70 (69)  | 0.40 (0.18) |    |
| 2½           | SW   | 25F-SW-29   | 2.66 (68)  | 2.80 (71)  | 3.00 (76) | 3.20 (81)  | 0.45 (0.20) |    |
| 3            | SW   | 30F-SW-29   | 3.16 (80)  | 3.30 (84)  | 3.00 (76) | 3.70 (94)  | 0.55 (0.25) |    |
| 3½           | SW   | 35F-SW-29   | 3.66 (93)  | 3.80 (96)  | 3.00 (76) | 4.20 (107) | 0.60 (0.27) |    |
| 4            | SW   | 40F-SW-29   | 4.16 (106) | 4.30 (109) | 3.00 (76) | 4.70 (119) | 0.78 (0.35) |    |
| 4            | HW   | 40F-HW-29   | 4.20 (107) | 4.39 (111) | 3.00 (76) | 4.79 (122) | 0.95 (0.43) |    |
| 4½           | SW   | 45F-SW-29   | 4.66 (118) | 4.80 (122) | 3.00 (76) | 5.20 (132) | 0.85 (0.38) |    |
| 4½           | HW   | 45F-HW-29   | 4.70 (119) | 4.89 (124) | 3.00 (76) | 5.29 (134) | 0.90 (0.41) |    |
| 5            | MW   | 50F-MW-29   | 5.20 (132) | 5.39 (137) | 3.00 (76) | 5.79 (147) | 0.85 (0.39) |    |
| 5            | HW   | 50F-HW-29   | 5.24 (133) | 5.42 (138) | 3.00 (76) | 5.82 (148) | 0.87 (0.40) |    |
| 6            | MW   | 60F-MW-29   | 6.20 (157) | 6.39 (162) | 3.00 (76) | 6.79 (172) | 1.15 (0.52) |    |
| 6            | HW   | 60F-HW-29   | 6.24 (158) | 6.42 (163) | 3.00 (76) | 6.82 (173) | 1.25 (0.57) |    |

| Nominal Size | Type | Item No.  | D1         | D2          | L          | M          | Weight lbs  | kg |
|--------------|------|-----------|------------|-------------|------------|------------|-------------|----|
| ¾            | XW   | 07E-XW-29 | 1.44 (36)  | 1.935 (54)  | 1.60 (45)  | 2.48 (63)  | 0.63 (0.28) |    |
| 1            | XW   | 10E-XW-29 | 1.70 (43)  | 2.200 (61)  | 1.60 (45)  | 2.70 (68)  | 0.70 (0.32) |    |
| 1¼           | XW   | 12E-XW-29 | 2.05 (52)  | 2.545 (65)  | 1.60 (45)  | 3.11 (79)  | 0.85 (0.38) |    |
| 1½           | XW   | 15E-XW-29 | 2.29 (58)  | 2.785 (71)  | 1.60 (45)  | 3.35 (85)  | 1.22 (0.55) |    |
| 2            | XW   | 20F-XW-29 | 2.52 (64)  | 3.02 (76)   | 3.00 (76)  | 3.62 (92)  | 1.30 (0.59) |    |
| 2½           | XW   | 25F-XW-29 | 3.03 (77)  | 3.525 (90)  | 3.00 (76)  | 4.22 (107) | 1.59 (0.72) |    |
| 3            | XW   | 30F-XW-29 | 3.52 (89)  | 4.02 (102)  | 3.00 (76)  | 4.62 (117) | 1.90 (0.86) |    |
| 3½           | XW   | 35F-XW-29 | 4.03 (102) | 4.525 (115) | 3.00 (76)  | 5.48 (139) | 2.17 (0.98) |    |
| 4            | XW   | 40F-XW-29 | 4.52 (115) | 5.02 (128)  | 5.00 (127) | 5.62 (143) | 2.40 (1.09) |    |
| 5            | XW   | 50F-XW-29 | 5.52 (140) | 6.02 (153)  | 5.00 (127) | 6.62 (168) | 2.42 (1.10) |    |
| 6            | XW   | 60F-XW-29 | 6.52 (166) | 7.02 (178)  | 5.00 (127) | 7.62 (194) | 2.50 (1.13) |    |

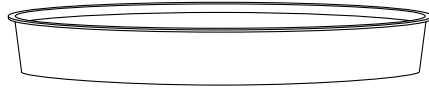


### SPLIT ANCHOR RINGS

Split anchor rings are supplied in pairs and are used to create fixed points. The split anchor rings are placed around the support system, close to the mid point between two expansion joints. One pair of split anchor rings is placed on each side of the support system. Split anchor rings are bonded to the outside of the conduit with FLAME SHIELD® Mix.

| Nominal Size | Type | IPS Item No. | ID Item No. | F        | L        | Weight lbs  | kg |
|--------------|------|--------------|-------------|----------|----------|-------------|----|
| ¾            | SW   | 07E-SW-28    | —           | 0.25 (6) | 3.0 (76) | 0.18 (0.08) |    |
| 1            | SW   | 10E-SW-28    | —           | 0.25 (6) | 3.0 (76) | 0.21 (0.10) |    |
| 1¼           | SW   | 12E-SW-28    | —           | 0.25 (6) | 3.0 (76) | 0.26 (0.12) |    |
| 1½           | SW   | 15E-SW-28    | —           | 0.25 (6) | 3.0 (76) | 0.36 (0.16) |    |
| 2            | SW   | 20E-SW-28    | 20F-SW-28   | 0.25 (6) | 3.0 (76) | 0.42 (0.19) |    |
| 2½           | SW   | 25E-SW-28    | 25F-SW-28   | 0.25 (6) | 3.0 (76) | 0.48 (0.22) |    |
| 3            | SW   | 30E-SW-28    | 30F-SW-28   | 0.25 (6) | 3.0 (76) | 0.67 (0.30) |    |
| 3½           | SW   | —            | 35F-SW-28   | 0.25 (6) | 3.0 (76) | 0.76 (0.34) |    |
| 4            | SW   | 40E-SW-28    | 40F-SW-28   | 0.25 (6) | 3.0 (76) | 0.80 (0.36) |    |
| 4            | HW   | 40E-HW-28    | 40F-HW-28   | 0.25 (6) | 3.0 (76) | 0.80 (0.36) |    |
| 4½           | SW   | —            | 45F-SW-28   | 0.25 (6) | 3.0 (76) | 0.91 (0.41) |    |
| 4½           | HW   | —            | 45F-HW-28   | 0.25 (6) | 3.0 (76) | 0.91 (0.41) |    |
| 5            | MW   | 50E-MW-28    | 50F-MW-28   | 0.25 (6) | 3.0 (76) | 1.06 (0.48) |    |
| 5            | HW   | 50E-HW-28    | 50F-HW-28   | 0.25 (6) | 3.0 (76) | 1.06 (0.48) |    |
| 6            | MW   | 60E-MW-28    | 60F-MW-28   | 0.25 (6) | 3.0 (76) | 1.15 (0.52) |    |
| 6            | HW   | 60E-HW-28    | 60F-HW-28   | 0.25 (6) | 3.0 (76) | 1.15 (0.52) |    |

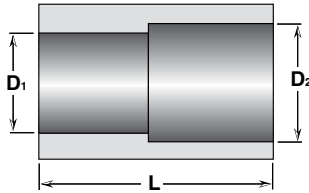
| Nominal Size | Type | Item No.  | F        | L      | Weight lbs  | kg |
|--------------|------|-----------|----------|--------|-------------|----|
| ¾            | XW   | 07E-XW-28 | 0.25 (6) | 3 (76) | 0.25 (0.11) |    |
| 1            | XW   | 10E-XW-28 | 0.25 (6) | 3 (76) | 0.28 (0.13) |    |
| 1¼           | XW   | 12E-XW-28 | 0.25 (6) | 3 (76) | 0.34 (0.15) |    |
| 1½           | XW   | 15E-XW-28 | 0.25 (6) | 3 (76) | 0.49 (0.22) |    |
| 2            | XW   | 20F-XW-28 | 0.25 (6) | 3 (76) | 0.52 (0.24) |    |
| 2½           | XW   | 25F-XW-28 | 0.25 (6) | 3 (76) | 0.64 (0.29) |    |
| 3            | XW   | 30F-XW-28 | 0.25 (6) | 3 (76) | 0.80 (0.36) |    |
| 3½           | XW   | 35F-XW-28 | 0.25 (6) | 3 (76) | 0.87 (0.39) |    |
| 4            | XW   | 40F-XW-28 | 0.25 (6) | 3 (76) | 0.98 (0.44) |    |
| 5            | XW   | 50F-XW-28 | 0.25 (6) | 3 (76) | 1.15 (0.52) |    |
| 6            | XW   | 60F-XW-28 | 0.25 (6) | 3 (76) | 1.25 (0.57) |    |



### THERMOPLASTIC PLUG

| Nominal Size | Type | IPS Item No. | ID Item No. | Weight |         |
|--------------|------|--------------|-------------|--------|---------|
|              |      |              |             | lbs    | kg      |
| ¾            | SW   | 07C-SW-26    | —           | 0.01   | (0.005) |
| 1            | SW   | 10C-SW-26    | —           | 0.01   | (0.005) |
| 1¼           | SW   | 12C-SW-26    | —           | 0.01   | (0.005) |
| 1½           | SW   | 15C-SW-26    | —           | 0.01   | (0.005) |
| 2            | SW   | 20C-SW-26    | 20D-SW-26   | 0.01   | (0.005) |
| 2½           | SW   | 25C-SW-26    | 25D-SW-26   | 0.01   | (0.005) |
| 3            | SW   | 30C-SW-26    | 30D-SW-26   | 0.03   | (0.014) |
| 3½           | SW   | —            | 35D-SW-26   | 0.03   | (0.014) |
| 4            | SW   | 40C-SW-26    | 40D-SW-26   | 0.03   | (0.014) |
| 4            | HW   | 40C-HW-26    | 40D-HW-26   | 0.03   | (0.014) |
| 4½           | SW   | —            | 45D-SW-26   | 0.05   | (0.023) |
| 4½           | HW   | —            | 45D-HW-26   | 0.05   | (0.023) |
| 5            | MW   | 50C-MW-26    | 50D-MW-26   | 0.06   | (0.027) |
| 5            | HW   | 50C-HW-26    | 50D-HW-26   | 0.06   | (0.027) |
| 6            | MW   | 60C-MW-26    | 60D-MW-26   | 0.07   | (0.032) |
| 6            | HW   | 60C-HW-26    | 60D-HW-26   | 0.07   | (0.032) |

| Nominal Size | Type | Item No.  | Weight |         |
|--------------|------|-----------|--------|---------|
|              |      |           | lbs    | kg      |
| ¾            | XW   | 07C-XW-26 | 0.01   | (0.005) |
| 1            | XW   | 10C-XW-26 | 0.01   | (0.005) |
| 1¼           | XW   | 12C-XW-26 | 0.01   | (0.005) |
| 1½           | XW   | 15C-XW-26 | 0.01   | (0.005) |
| 2            | XW   | 20D-XW-26 | 0.01   | (0.005) |
| 2½           | XW   | 25D-XW-26 | 0.01   | (0.005) |
| 3            | XW   | 30D-XW-26 | 0.03   | (0.014) |
| 3½           | XW   | 35D-XW-26 | 0.03   | (0.014) |
| 4            | XW   | 40D-XW-26 | 0.03   | (0.014) |
| 5            | XW   | 50D-XW-26 | 0.06   | (0.027) |
| 6            | XW   | 60D-XW-26 | 0.07   | (0.032) |

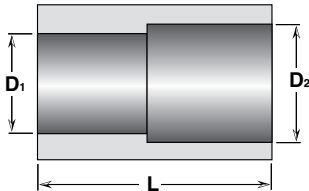


### REDUCING ADAPTER

Transition adapter from ID/tubular phenolic conduit to IPS type.

| Nominal Size | Type | Item No.  | D1         | D2         | L       | Weight |        |
|--------------|------|-----------|------------|------------|---------|--------|--------|
|              |      |           |            |            |         | lbs    | kg     |
| 2            | SW   | 20F-SW-27 | 2.16 (55)  | 2.40 (61)  | 6 (152) | 0.30   | (0.14) |
| 3            | SW   | 30F-SW-27 | 3.16 (80)  | 3.52 (89)  | 6 (152) | 0.50   | (0.23) |
| 4            | SW   | 40F-SW-27 | 4.16 (106) | 4.47 (114) | 6 (152) | 0.60   | (0.27) |
| 4            | HW   | 40F-HW-27 | 4.20 (107) | 4.52 (115) | 6 (152) | 0.70   | (0.32) |
| 5            | MW   | 50F-MW-27 | 5.20 (132) | 5.59 (142) | 6 (152) | 0.90   | (0.41) |
| 5            | HW   | 50F-HW-27 | 5.24 (133) | 5.63 (143) | 6 (152) | 1.00   | (0.45) |
| 6            | MW   | 60F-MW-27 | 6.20 (157) | 6.66 (169) | 6 (152) | 1.10   | (0.50) |
| 6            | HW   | 60F-HW-27 | 6.24 (158) | 6.69 (170) | 6 (152) | 1.20   | (0.55) |

Note: These are just examples of some reducing adapters. Contact Champion Fiberglass directly for other reducers.

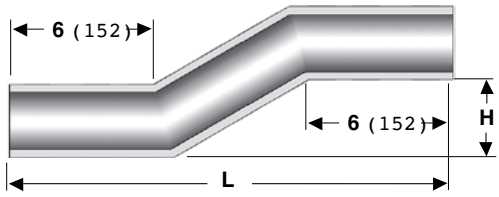


### REDUCING ADAPTER

This adapter is used for transition between different diameters of IPS phenolic conduit.

| Nominal Size  | IPS Item No.     | D1         | D2         | L       | Weight |        |
|---------------|------------------|------------|------------|---------|--------|--------|
|               |                  |            |            |         | lbs    | kg     |
| 1 SW - ¾ SW   | 10E-SW-25-07E-SW | 1.06 (27)  | 1.32 (34)  | 4 (101) | 0.35   | (0.16) |
| 1¼ SW - ¾ SW  | 12E-SW-25-07E-SW | 1.06 (27)  | 1.67 (42)  | 4 (101) | 0.45   | (0.20) |
| 1¼ SW - 1 SW  | 12E-SW-25-10E-SW | 1.32 (34)  | 1.67 (42)  | 4 (101) | 0.40   | (0.18) |
| 1½ SW - ¾ SW  | 15E-SW-25-07E-SW | 1.06 (27)  | 1.91 (48)  | 4 (101) | 0.38   | (0.17) |
| 1½ SW - 1 SW  | 15E-SW-25-10E-SW | 1.32 (34)  | 1.91 (48)  | 4 (101) | 0.40   | (0.18) |
| 1½ SW - 1¼ SW | 15E-SW-25-12E-SW | 1.67 (42)  | 1.91 (48)  | 6 (152) | 0.37   | (0.17) |
| 2 SW - ¾ SW   | 20E-SW-25-07E-SW | 1.06 (27)  | 2.40 (61)  | 6 (152) | 0.60   | (0.27) |
| 2 SW - 1 SW   | 20E-SW-25-10E-SW | 1.32 (34)  | 2.40 (61)  | 6 (152) | 0.55   | (0.25) |
| 2 SW - 1¼ SW  | 20E-SW-25-12E-SW | 1.67 (42)  | 2.40 (61)  | 6 (152) | 0.50   | (0.23) |
| 2 SW - 1½ SW  | 20E-SW-25-15E-SW | 1.91 (48)  | 2.40 (61)  | 6 (152) | 0.47   | (0.21) |
| 3 SW - 2 SW   | 30E-SW-25-20E-SW | 2.40 (61)  | 3.52 (89)  | 6 (152) | 0.65   | (0.32) |
| 4 SW - 2 SW   | 40E-SW-25-20E-SW | 2.40 (61)  | 4.47 (113) | 6 (152) | 0.80   | (0.36) |
| 4 SW - 3 SW   | 40E-SW-25-30E-SW | 3.52 (89)  | 4.47 (113) | 6 (152) | 0.90   | (0.41) |
| 5 MW - 3 SW   | 50E-MW-25-30E-SW | 3.52 (89)  | 5.59 (142) | 6 (152) | 1.30   | (0.59) |
| 5 MW - 4 SW   | 50E-MW-25-40E-SW | 4.47 (114) | 5.59 (142) | 6 (152) | 0.85   | (0.39) |
| 6 MW - 4 SW   | 60E-MW-25-40E-SW | 4.47 (114) | 6.61 (166) | 6 (152) | 1.70   | (0.77) |
| 6 MW - 5 MW   | 60E-MW-25-50E-MW | 5.59 (142) | 6.61 (166) | 6 (152) | 1.90   | (0.86) |

Note: These are just examples of some reducing adapters. Contact Champion Fiberglass directly for other reducers.

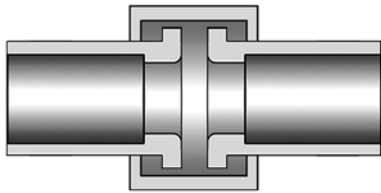


### OFFSET BEND

When manufacturing offset bends, the vertical offset dimension, H and the horizontal offset dimension, L, need to be specified.

All offset bends are supplied with 6" **(152mm)** straight ends. [Item numbers for offset bends end with the suffix - 47]

Contact your local sales representative or Champion Fiberglass directly for information.



### WOBBLE COUPLING

Wobble couplings are used for minor vertical and horizontal offsets for above ground installations. [Item numbers for wobble couplings end with the suffix - 48]

For further information regarding dimensions, etc., please contact your local sales representative or Champion Fiberglass directly.