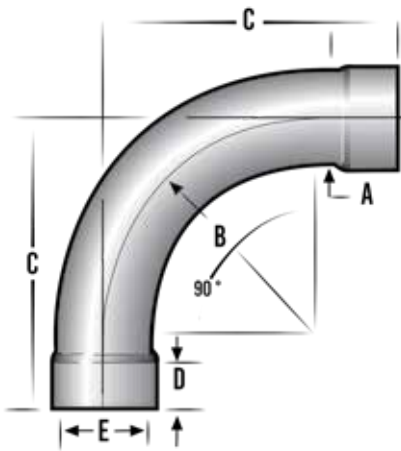


Industrial Vacuum Components

Standard Radius Vacuum Elbows

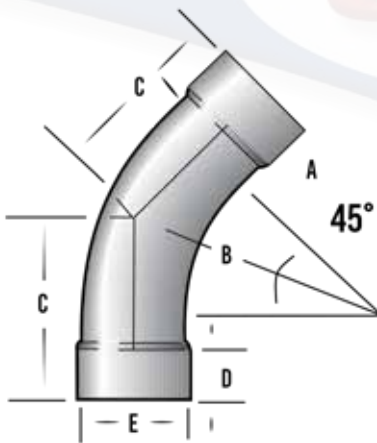
Standard Radius 90° Elbows



90° STANDARD RADIUS ELBOW

Part No.	A - O.D. or E - I.D. (bell)	B (CLR)	C	D	Gauge
MSR-2190	2 1/8"	5"	7"	1 1/4"	16
MSR-2590	2 1/2"	6"	8"	1 1/4"	16
MSR-3090	3"	7 1/2"	9 1/2"	1 1/4"	16
MSR-3590	3 1/2"	8 3/4"	10 3/4"	1 1/4"	16
MSR-4090	4"	10"	12"	1 1/4"	16
MSR-5090	5"	12 1/2"	15 1/8"	1 1/2"	14
MSR-6090	6"	15"	18 1/4"	1 1/2"	14
MSR-8090	8"	20"	24 1/4"	----	14
MSR-9090***	10"	32"	47"	----	12
MSR-9290***	12"	36"	42 1/4"	----	12
MSR-9490***	14"	36"	43 1/4"	----	12

Standard Radius 45° Elbows



45° STANDARD RADIUS ELBOW

Part No.	A - O.D. or E - I.D. (bell)	B (CLR)	C	D	Gauge
MSR-2145	2 1/8"	5"	4 5/16"	1 1/4"	16
MSR-2545	2 1/2"	6"	4 1/2"	1 1/4"	16
MSR-3045	3"	7 1/2"	5 1/8"	1 1/4"	16
MSR-3545	3 1/2"	8 3/4"	5 5/8"	1 1/4"	16
MSR-4045	4"	10"	6 1/8"	1 1/4"	16
MSR-5045	5"	12 1/2"	7 13/16"	1 1/2"	14
MSR-6045	6"	15"	9 15/32"	1 1/2"	14
MSR-8045	8"	20"	12 17/32"	----	14
MSR-9045***	10"	32"	28 1/4"	----	12
MSR-9245***	12"	36"	21 5/32"	----	12
MSR-9445***	14"	36"	22 5/32"	----	12

***Segmented (3 - piece miter)

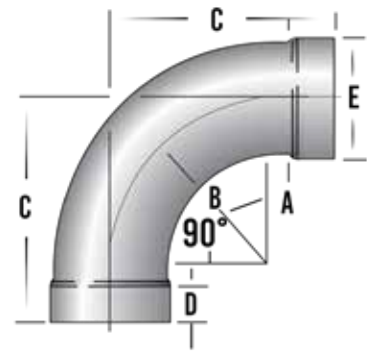
- 30° and 60° Elbows Available
- 11 Gauge Elbows Available (straight ends only)
- Expanded Ends Standard through 6"
- Expanded One End Available
- Straight Ends Available For All Sizes On Request

When ordering, please specify type of material:
Aluminum, Carbon Steel, Galvanized or Stainless Steel.

Short Radius Vacuum Elbows

Short Radius 90° Elbows

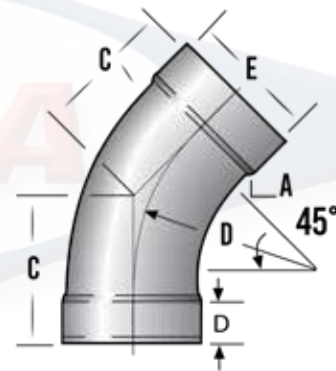
Part No.	A - O.D. or E - I.D. (bell)	B (CLR)	C	D	Gauge
MSH-2190	2 1/8"	3 1/2"	5 1/2"	1 1/4"	16
MSH-2590	2 1/2"	4"	6"	1 1/4"	16
MSH-3090	3"	4 1/2"	6 1/2"	1 1/4"	16
MSH-3590	3 1/2"	5"	7"	1 1/4"	16
MSH-4090	4"	6"	8"	1 1/4"	16
MSH-5090	5"	7 1/2"	10 1/8"	1 1/2"	14
MSH-6090	6"	9"	12 1/4"	1 1/2"	14
MSH-8090	8"	12"	16 1/4"	----	14



90° SHORT RADIUS ELBOW

Short Radius 45° Elbows

Part No.	A - O.D. or E - I.D. (bell)	B (CLR)	C	D	Gauge
MSH-2145	2 1/8"	3 1/2"	3 7/16"	1 1/4"	16
MSH-2545	2 1/2"	4"	3 21/32"	1 1/4"	16
MSH-3045	3"	4 1/2"	3 7/8"	1 1/4"	16
MSH-3545	3 1/2"	5"	4 1/16"	1 1/4"	16
MSH-4045	4"	6"	4 1/2"	1 1/4"	16
MSH-5045	5"	7 1/2"	5 23/32"	1 1/2"	14
MSH-6045	6"	9"	6 31/32"	1 1/2"	14
MSH-8045	8"	12"	9 7/32"	----	14



45° SHORT RADIUS ELBOW

- 30° and 60° Elbows Available
- 11 Gauge Elbows Available (straight ends only)
- Expanded Ends Standard through 6"
- Expanded One End Available
- Straight Ends Available For All Sizes On Request

When ordering, please specify type of material:
Aluminum, Carbon Steel, Galvanized or Stainless Steel.

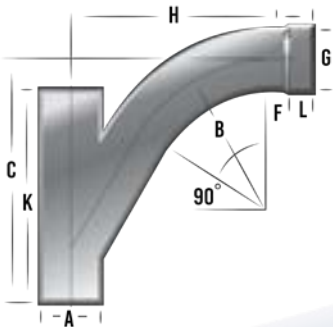


Standard 90° TY's

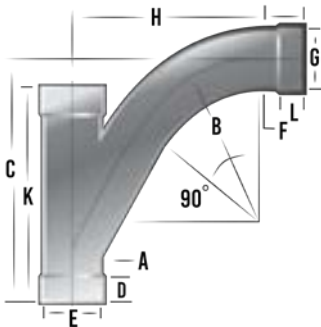
OD = Outside Diameter
 D = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD
 A = Outside Diameter (OD) = E Inside Diameter (ID)
 F = Outside Diameter (OD) = G Inside Diameter (ID)
 L = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD
 All reference dimensions are nominal.

- 2 1/8" through 14" OD
- Wall Thickness: 16, 14, 12, (11 Gauge Available in Straight Ends Only)
- Straight and Expanded combinations available
- Straight ends available on all sizes by request

When ordering, please specify material: Aluminum, Carbon Steel, Galvanized or Stainless Steel.



90° TY
(one end expanded)



90° TY
(three ends expanded)

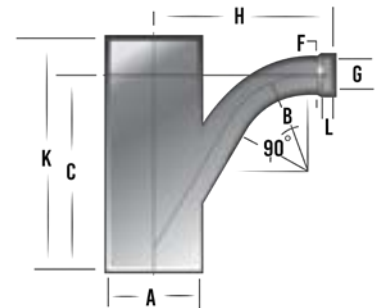
Part No.	Size	Gauge	A - O.D.	B	C	F - O.D.	H	K
MTY-2121	2 1/8"	16	2 1/8"	5'	9 3/32"	2 1/8"	4 11/16"	9 1/2"
MTY-2521	2 1/2" x 2 1/8"	16	2 1/2"	5"	9 9/32"	2 1/8"	4 7/8"	10"
MTY-2525	2 1/2"	16	2 1/2"	6"	10 5/32"	2 1/2"	5 3/16"	10"
MTY-3021	3" x 2 1/8"	16	3"	5"	9 17/32"	2 1/8"	5 1/8"	10 1/2"
MTY-3025	3" x 2 1/2"	16	3"	6"	10 13/32"	2 1/2"	5 7/16"	10 1/2"
MTY-3030	3"	16	3"	7 1/2"	11 19/32"	3"	5 29/32"	10 1/2"
MTY-3521	3 1/2" x 2 1/8"	16	3 1/2"	5"	9 25/32"	2 1/8"	5 3/8"	11"
MTY-3525	3 1/2" x 2 1/2"	16	3 1/2"	6"	10 21/32"	2 1/2"	5 11/16"	11"
MTY-3530	3 1/2" x 3"	16	3 1/2"	7 1/2"	11 27/32"	3"	6 5/32"	13"
MTY-3535	3 1/2"	16	3 1/2"	8 3/4"	12 31/32"	3 1/2"	6 9/16"	13"
MTY-4021	4" x 2 1/8"	16	4"	5"	10 1/32"	2 1/8"	5 5/8"	12"
MTY-4025	4" x 2 1/2"	16	4"	6"	10 29/32"	2 1/2"	5 15/16"	12"
MTY-4030	4" x 3"	16	4"	7 1/2"	12 3/32"	3"	6 13/32"	12"
MTY-4035	4" x 3 1/2"	16	4"	8 3/4"	13 7/32"	3 1/2"	6 13/16"	14"
MTY-4040	4"	16	4"	10"	14 11/32"	4"	7 1/4"	14"
MTY-5021	5" x 2 1/8"	14	5"	5"	10 17/32"	2 1/8"	6 1/8"	13"
MTY-5025	5" x 2 1/2"	14	5"	6"	11 13/32"	2 1/2"	6 7/16"	13"
MTY-5030	5" x 3"	14	5"	7 1/2"	12 19/32"	3"	6 29/32"	15 1/2"
MTY-5035	5" x 3 1/2"	14	5"	8 3/4"	13 23/32"	3 1/2"	7 5/16"	15 1/2"
MTY-5040	5" x 4"	14	5"	10"	14 27/32"	4"	7 3/4"	15 1/2"
MTY-5050	5"	14	5"	12 1/2"	17 9/16"	5"	9"	18 1/2"
MTY-6021	6" x 2 1/8"	14	6"	5"	11 1/32"	2 1/8"	6 5/8"	15"
MTY-6025	6" x 2 1/2"	14	6"	6"	11 29/32"	2 1/2"	6 15/16"	15"
MTY-6030	6" x 3"	14	6"	7 1/2"	13 3/32"	3"	7 13/32"	15"
MTY-6035	6" x 3 1/2"	14	6"	8 3/4"	14 7/32"	3 1/2"	7 13/16"	17"
MTY-6040	6" x 4"	14	6"	10"	15 11/32"	4"	8 1/4"	17"
MTY-6050	6" x 5"	14	6"	12 1/2"	18 1/16"	5"	9 1/2"	21"
MTY-6060	6"	14	6"	15"	20 25/32"	6"	10 25/32"	21"

D = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD
 L = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD

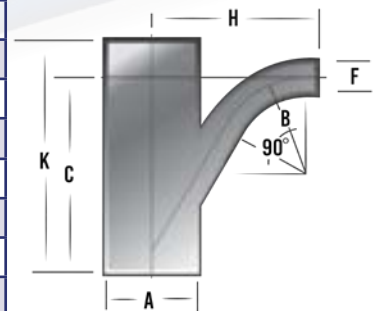
Standard 90° TY's continued

When ordering, please specify material: Aluminum, Carbon Steel, Galvanized or Stainless Steel.

Part No.	Size	Gauge	A - O.D.	B	C	F - O.D.	H	K
MTY-8021	8" x 2 1/8"	14	8"	5"	12 3/32"	2 1/8"	11 3/4"	18"
MTY-8025	8" x 2 1/2"	14	8"	6"	13 1/4"	2 1/2"	12 25/32"	18"
MTY-8030	8" x 3"	14	8"	7 1/2"	14 7/8"	3"	14 9/32"	18"
MTY-8035	8" x 3 1/2"	14	8"	8 3/4"	16 3/8"	3 1/2"	15 19/32"	21"
MTY-8040	8" x 4"	14	8"	10"	17 7/8"	4"	16 29/32"	21"
MTY-8050	8" x 5"	14	8"	12 1/2"	20 7/8"	5"	20 1/8"	24"
MTY-8060	8" x 6"	14	8"	15"	23 7/8"	6"	23 11/32"	24"
MTY-8080	8"	14	8"	20"	29 7/8"	8"	29 17/32"	29"
MTY-9021	10" x 2 1/8"	12	10"	5"	13 3/32"	2 1/8"	12 3/4"	21"
MTY-9025	10" x 2 1/2"	12	10"	6"	14 1/4"	2 1/2"	13 25/32"	21"
MTY-9030	10" x 3"	12	10"	7 1/2"	15 7/8"	3"	15 9/32"	21"
MTY-9035	10" x 3 1/2"	12	10"	8 3/4"	17 3/8"	3 1/2"	16 17/32"	24"
MTY-9040	10" x 4"	12	10"	10"	18 7/8"	4"	17 29/32"	24"
MTY-9050	10" x 5"	12	10"	12 1/2"	21 7/8"	5"	21 1/8"	24"
MTY-9060	10" x 6"	12	10"	15"	24 7/8"	6"	24 11/32"	28"
MTY-9080	10" x 8"	12	10"	20"	30 7/8"	8"	30 17/32"	32"
MTY-9090	10"	12	10"	32"	40 3/8"	10"	42 25/32"	36"
MTY-9221	12" x 2 1/8"	12	12"	5"	14 3/32"	2 1/8"	13 3/4"	24"
MTY-9225	12" x 2 1/2"	12	12"	6"	15 1/4"	2 1/2"	14 25/32"	24"
MTY-9230	12" x 3"	12	12"	7 1/2"	16 7/8"	3"	16 9/32"	24"
MTY-9235	12" x 3 1/2"	12	12"	8 3/4"	18 3/8"	3 1/2"	17 19/32"	27"
MTY-9240	12" x 4"	12	12"	10"	19 7/8"	4"	18 29/32"	27"
MTY-9250	12" x 5"	12	12"	12 1/2"	22 7/8"	5"	22 1/8"	27"
MTY-9260	12" x 6"	12	12"	15"	25 7/8"	6"	25 11/32"	31"
MTY-9280	12" x 8"***	12	12"	20"	31 7/8"	8"	31 17/32"	35"
MTY-9290	12" x 10"***	12	12"	32"	41 3/8"	10"	43 25/32"	39"
MTY-9292	12" x 12"***	12	12"	36"	46 7/8"	12"	49 1/8"	43"
MTY-9480	14" x 8"	12	14"	20"	32 7/8"	8"	32 17/32"	38"
MTY-9490	14" x 10"	12	14"	32"	42 3/8"	10"	44 25/32"	42"
MTY-9492	14" x 12"***	12	14"	36"	47 7/8"	12"	50 1/8"	46"
MTY-9494	14"***	12	14"	36"	51 3/8"	14"	50 3/4"	52"



90° TY
(one end expanded)



90° TY
(straight ends)

***Segmented

L = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD

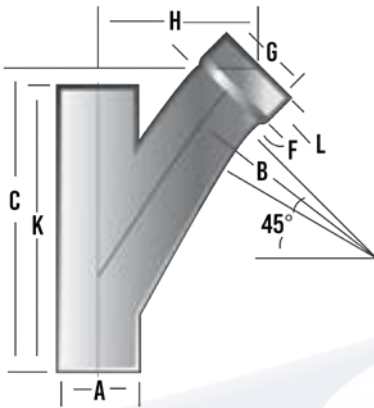


Standard 45° YL's

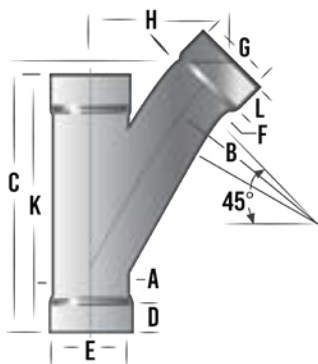
OD = Outside Diameter
 D = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD
 A = Outside Diameter (OD) = E Inside Diameter (ID)
 F = Outside Diameter (OD) = G Inside Diameter (ID)
 L = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD
 All reference dimensions are nominal.

- 2 1/8" through 14" OD
- Wall Thickness: 16, 14, 12, (11 Gauge Available in Straight Ends Only)
- Straight and Expanded combinations available
- Straight ends available on all sizes by request

When ordering, please specify material: Aluminum, Carbon Steel, Galvanized or Stainless Steel.



45° YL
(one end expanded)



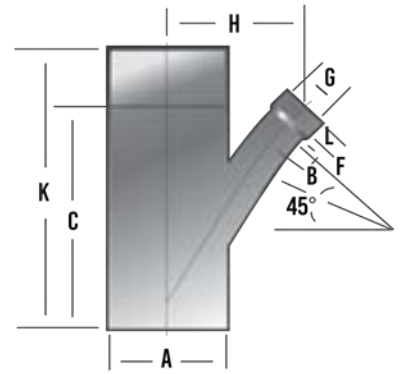
45° YL
(three ends expanded)

Part No.	Size	Gauge	A - O.D.	B	C	F - O.D.	H	K
YL-2151	2 1/8"	16	2 1/8"	5"	9 3/32"	2 1/8"	4 11/16"	9 1/2"
YL-2551	2 1/2" x 2 1/8"	16	2 1/2"	5"	9 9/32"	2 1/8"	4 7/8"	10"
YL-2561	2 1/2"	16	2 1/2"	6"	10 5/32"	2 1/2"	5 3/16"	10"
YL-3051	3" x 2 1/8"	16	3"	5"	9 17/32"	2 1/8"	5 1/8"	10 1/2"
YL-3061	3" x 2 1/2"	16	3"	6"	10 13/32"	2 1/2"	5 7/16"	10 1/2"
YL-3071	3"	16	3"	7 1/2"	11 19/32"	3"	5 29/32"	10 1/2"
YL-3551	3 1/2" x 2 1/8"	16	3 1/2"	5"	9 25/32"	2 1/8"	5 3/8"	11"
YL-3561	3 1/2" x 2 1/2"	16	3 1/2"	6"	10 21/32"	2 1/2"	5 11/16"	11"
YL-3571	3 1/2" x 3"	16	3 1/2"	7 1/2"	11 27/32"	3"	6 5/32"	13"
YL-3581	3 1/2"	16	3 1/2"	8 3/4"	12 31/32"	3 1/2"	6 9/16"	13"
YL-4051	4" x 2 1/8"	16	4"	5"	10 1/32"	2 1/8"	5 5/8"	12"
YL-4061	4" x 2 1/2"	16	4"	6"	10 29/32"	2 1/2"	5 15/16"	12"
YL-4071	4" x 3"	16	4"	7 1/2"	12 3/32"	3"	6 13/32"	12"
YL-4081	4" x 3 1/2"	16	4"	8 3/4"	13 7/32"	3 1/2"	6 13/16"	14"
YL-4091	4"	16	4"	10"	14 11/32"	4"	7 1/4"	14"
YL-5051	5" x 2 1/8"	14	5"	5"	10 17/32"	2 1/8"	6 1/8"	13"
YL-5061	5" x 2 1/2"	14	5"	6"	11 13/32"	2 1/2"	6 7/16"	13"
YL-5071	5" x 3"	14	5"	7 1/2"	12 19/32"	3"	6 29/32"	15 1/2"
YL-5081	5" x 3 1/2"	14	5"	8 3/4"	13 23/32"	3 1/2"	7 5/16"	15 1/2"
YL-5091	5" x 4"	14	5"	10"	14 27/32"	4"	7 3/4"	15 1/2"
YL-5151	5"	14	5"	12 1/2"	17 9/16"	5"	9"	18 1/2"
YL-6051	6" x 2 1/8"	14	6"	5"	11 1/32"	2 1/8"	6 5/8"	15"
YL-6061	6" x 2 1/2"	14	6"	6"	11 29/32"	2 1/2"	6 15/16"	15"
YL-6071	6" x 3"	14	6"	7 1/2"	13 3/32"	3"	7 13/32"	15"
YL-6081	6" x 3 1/2"	14	6"	8 3/4"	14 7/32"	3 1/2"	7 13/16"	17"
YL-6091	6" x 4"	14	6"	10"	15 11/32"	4"	8 1/4"	17"
YL-6141	6" x 5"	14	6"	12 1/2"	18 1/16"	5"	9 1/2"	21"
YL-6151	6"	14	6"	15"	20 25/32"	6"	10 25/32"	21"

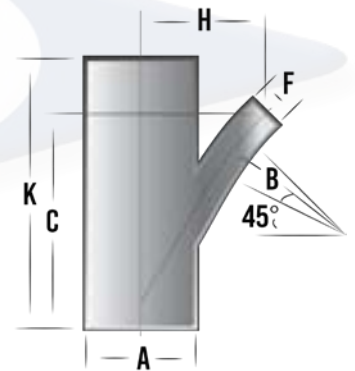
Standard 45° YL's continued

When ordering, please specify material: Aluminum, Carbon Steel, Galvanized or Stainless Steel.

Part No.	Size	Gauge	A - O.D.	B	C	F - O.D.	H	K
YL-8051	8" x 2 1/8"	14	8"	5"	12 1/32"	2 1/8"	7 5/8"	18"
YL-8061	8" x 2 1/2"	14	8"	6"	12 29/32"	2 1/2"	7 15/16"	18"
YL-8071	8" x 3"	14	8"	7 1/2"	14 3/32"	3"	8 13/32"	18"
YL-8081	8" x 3 1/2"	14	8"	8 3/4"	15 7/32"	3 1/2"	8 13/16"	21"
YL-8091	8" x 4"	14	8"	10"	16 11/32"	4"	9 1/4"	21"
YL-8141	8" x 5"	14	8"	12 1/2"	19 1/16"	5"	10 1/2"	24"
YL-8151	8" x 6"	14	8"	15"	21 25/32"	6"	11 25/32"	24"
YL-8161	8"	14	8"	20"	27"	8"	14 5/32"	29"
YL-10051	10" x 2 1/8"	12	10"	5"	13 1/32"	2 1/8"	8 5/8"	21"
YL-10061	10" x 2 1/2"	12	10"	6"	13 29/32"	2 1/2"	8 15/16"	21"
YL-10071	10" x 3"	12	10"	7 1/2"	15 3/32"	3"	9 13/32"	21"
YL-10081	10" x 3 1/2"	12	10"	8 3/4"	16 7/32"	3 1/2"	9 13/16"	24"
YL-10091	10" x 4"	12	10"	10"	17 11/32"	4"	10 1/4"	24"
YL-10141	10" x 5"	12	10"	12 1/2"	20 1/16"	5"	11 1/2"	24"
YL-10151	10" x 6"	12	10"	15"	22 3/4"	6"	12 25/32"	28"
YL-10161	10" x 8"	12	10"	20"	28"	8"	15 5/32"	32"
YL-10171	10"	12	10"	32"	34 11/16"	10"	18 5/8"	36"
YL-12051	12" x 2 1/8"	12	12"	5"	14 1/32"	2 1/8"	9 5/8"	24"
YL-12061	12" x 2 1/2"	12	12"	6"	14 29/32"	2 1/2"	9 31/32"	24"
YL-12071	12" x 3"	12	12"	7 1/2"	16 3/32"	3"	10 13/32"	24"
YL-12081	12" x 3 1/2"	12	12"	8 3/4"	17 7/32"	3 1/2"	10 13/16"	27"
YL-12091	12" x 4"	12	12"	10"	18 11/32"	4"	11 1/4"	27"
YL-12141	12" x 5"	12	12"	12 1/2"	21 1/16"	5"	12 1/2"	27"
YL-12151	12" x 6"	12	12"	15"	23 3/4"	6"	13 25/32"	31"
YL-12161	12" x 8"	12	12"	20"	29"	8"	16 5/32"	35"
YL-12171	12" x 10"	12	12"	32"	35 11/16"	10"	19 5/8"	39"
YL-12181	12"***	12	12"	36"	40 3/4"	12"	21 27/32"	43"
YL-14161	14" x 8"	12	14"	20"	30"	8"	17 5/32"	38"
YL-14171	14" x 10"	12	14"	32"	36 11/32"	10"	20 5/8"	42"
YL-14181	14" x 12"***	12	14"	36"	41 3/4"	12"	22 27/32"	46"
YL-14191	14"***	12	14"	36"	45 15/16"	14"	24 13/32"	52"



45° YL
(one end expanded)



45° YL
(straight ends)

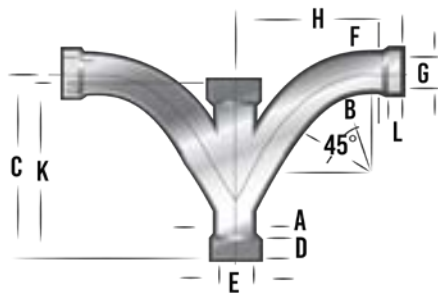
***Segmented



Standard Double Y's

OD = Outside Diameter
 D = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD
 A = Outside Diameter (OD) = E Inside Diameter (ID)
 F = Outside Diameter (OD) = G Inside Diameter (ID)
 L = Expansion Depth 1-3/8" through 4" OD, 1-5/8" for 5" and 6" OD
 All reference dimensions are nominal.

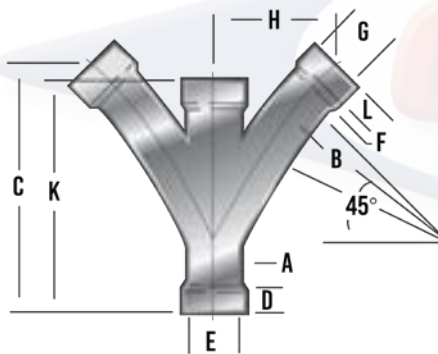
- 2 1/8" through 6" OD
- Wall Thickness: 16, 14, 12, (11 Gauge Available in Straight Ends Only)
- Materials: Carbon, Stainless, Aluminum, Galvanized Steel



Standard Double 90° TY

Standard Double 90° TY's

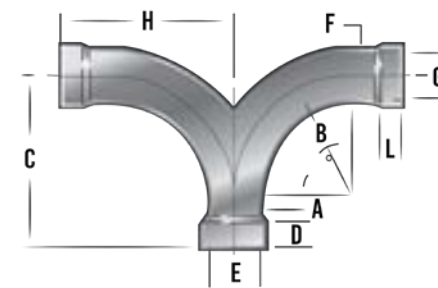
Part No.	Size	Gauge	A - O.D.	B	C	F - O.D.	H	K
DTY-215	2 1/8"	16	2 1/8"	5"	9 5/32"	2 1/8"	8 13/16"	9 1/2"
DTY-256	2 1/2"	16	2 1/2"	6"	10 1/2"	2 1/2"	10 1/32"	10"
DTY-307	3"	16	3"	7 1/2"	12 3/8"	3"	11 25/32"	11 1/2"
DTY-358	3 1/2"	16	3 1/2"	8 3/4"	14 1/8"	3 1/2"	13 11/32"	13"
DTY-409	4"	16	4"	10"	15 7/8"	4"	14 29/32"	14"
DTY-515	5"	14	5"	12 1/2"	19 3/8"	5"	18 5/8"	18 1/2"
DTY-615	6"	14	6"	15"	22 7/8"	6"	22 11/32"	21"



Standard Double 45° YL

Standard Double 45° YL's

Part No.	Size	Gauge	A - O.D.	B	C	F - O.D.	H	K
DYL-2151	2 1/8"	16	2 1/8"	5"	9 3/32"	2 1/8"	4 11/16"	9 1/2"
DYL-2561	2 1/2"	16	2 1/2"	6"	10 5/32"	2 1/2"	5 3/16"	10"
DYL-3071	3"	16	3"	7 1/2"	11 19/32"	3"	5 29/32"	11 1/2"
DYL-3581	3 1/2"	16	3 1/2"	8 3/4"	12 31/32"	3 1/2"	6 9/16"	13"
DYL-4091	4"	16	4"	10"	14 11/32"	4"	7 1/4"	14"
DYL-5151	5"	14	5"	12 1/2"	17 9/16"	5"	9"	18 1/2"
DYL-6151	6"	14	6"	15"	20 25/32"	6"	10 15/32"	21"



Standard Double 90° Y

Standard Double 90° Y's

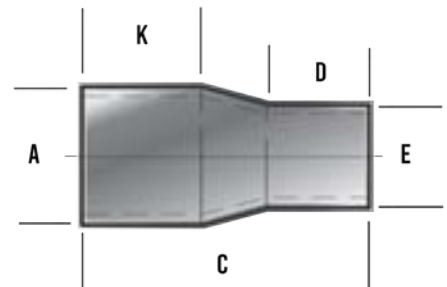
Part No.	Size	Gauge	A - O.D.	B	C	F - O.D.	H
DY-215	2 1/8"	16	2 1/8"	5"	7"	2 1/8"	7"
DY-256	2 1/2"	16	2 1/2"	6"	8"	2 1/2"	8"
DY-307	3"	16	3"	7 1/2"	9 1/2"	3"	9 1/2"
DY-358	3 1/2"	16	3 1/2"	8 3/4"	10 3/4"	3 1/2"	10 3/4"
DY-409	4"	16	4"	10"	12"	4"	12"
DY-515	5"	14	5"	12 1/2"	15 1/8"	5"	15 1/8"
DY-615	6"	14	6"	15"	18 1/4"	6"	18 1/4"



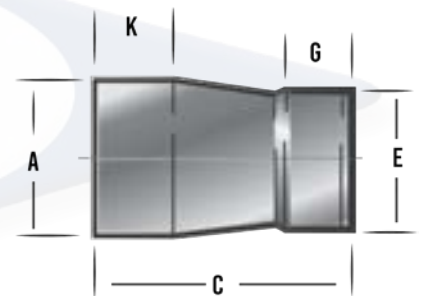
Standard Reducing Couplings

- 2-1/8" through 14" OD
- Wall Thickness: 16, 14, 12, (11 Gauge Available in Straight Ends Only)
- Materials: Carbon, Stainless, Aluminum, Galvanized Steel
- Straight ends available on all sizes by request
- All reference dimensions are nominal

Part No.	Size	Gauge	A - OD	C	D	E (ID)	F (OD)	G	K
MRC-2120	2 1/8" x 2"	16	2 1/8"	4"	1 25/32"	2"	-	1 3/8"	2"
MRC-2521	2 1/2" x 2 1/8"	16	2 1/2"	4 1/2"	1 3/4"	2 1/8"	-	1 3/8"	1 1/2"
MRC-3021	3" x 2 1/8"	16	3"	8 3/4"	2 1/4"	2 1/8"	-	1 3/8"	2"
MRC-3025	3" x 2 1/2"	16	3"	5"	2"	2 1/2"	-	1 3/8"	1 1/2"
MRC-3521	3 1/2" x 2 1/8"	16	3 1/2"	11"	2 1/4"	2 1/8"	-	1 3/8"	2"
MRC-3525	3 1/2" x 2 1/2"	16	3 1/2"	9 1/4"	2 7/8"	2 1/2"	-	1 3/8"	2 7/8"
MRC-3530	3 1/2" x 3"	16	3 1/2"	5 1/2"	2 1/8"	3"	-	1 3/8"	2 1/8"
MRC-4021	4" x 2 1/8"	16	4"	13 1/2"	1 5/8"	2 1/8"	-	1 3/8"	2"
MRC-4025	4" x 2 1/2"	16	4"	10 1/2"	2 1/4"	2 1/2"	-	1 3/8"	2"
MRC-4030	4" x 3"	16	4"	9 1/4"	2 1/4"	3"	-	1 3/8"	2"
MRC-4035	4" x 3 1/2"	16	4"	6"	2"	3 1/2"	-	1 3/8"	1 1/2"
MRC-5021	5" x 2 1/8"	14	5"	19 1/4"	2 1/4"	2 1/8"	-	1 3/8"	2 3/4"
MRC-5025	5" x 2 1/2"	14	5"	17 1/2"	2 1/4"	2 1/2"	-	1 3/8"	2 3/4"
MRC-5030	5" x 3"	14	5"	15"	2 1/4"	3"	-	1 3/8"	2 3/4"
MRC-5035	5" x 3 1/2"	14	5"	12 1/2"	2 1/4"	3 1/2"	-	1 3/8"	2 3/4"
MRC-5040	5" x 4"	14	5"	8"	2 1/4"	4"	-	1 3/8"	1 3/4"
MRC-6021	6" x 2 1/8"	14	6"	24 3/4"	2 1/4"	2 1/8"	-	1 3/8"	3 1/4"
MRC-6025	6" x 2 1/2"	14	6"	23"	2 1/4"	2 1/2"	-	1 3/8"	3 1/4"
MRC-6030	6" x 3"	14	6"	20 1/2"	2 1/4"	3"	-	1 3/8"	3 1/4"
MRC-6035	6" x 3 1/2"	14	6"	18"	2 1/4"	3 1/2"	-	1 3/8"	3 1/4"
MRC-6040	6" x 4"	14	6"	15 3/4"	2 1/4"	4"	-	1 3/8"	3 1/4"
MRC-6050	6" x 5"	14 14	6"	10"	2 5/8"	5"	-	1 3/8"	1 3/4"
MRC-8040	8" x 4"	14	8"	26 1/4"	2"	4"	-	1 3/8"	4 1/4"
MRC-8050	8" x 5"	14	8"	21 7/8"	2 5/8"	5"	-	1 5/8"	4 1/4"
MRC-8060	8" x 6"	14	8"	16 1/2"	3 1/4"	6"	-	1 5/8"	3 5/8"
MRC-9060	10" x 6"	12	10"	28 1/2"	3 1/4"	6"	-	1 5/8"	5 1/4"
MRC-9080	10" x 8"	12	10"	18 1/4"	2 1/2"	-	8"	N/A	5 1/4"
MRC-9280	12" x 8"	12	12"	29 1/4"	2 1/2"	-	8"	N/A	6 1/4"
MRC-9290	12" x 10"	12	12"	19 3/4"	3 1/4"	-	10"	N/A	6"
MRC-9490	14" x 10"	12	14"	30"	3"	-	10"	N/A	7 1/4"
MRC-9492	14" x 12"	12	14"	20"	4"	-	12"	N/A	7 1/4"



Standard Reducing Coupling (Straight End)



Standard Reducing Coupling (Expanded End)

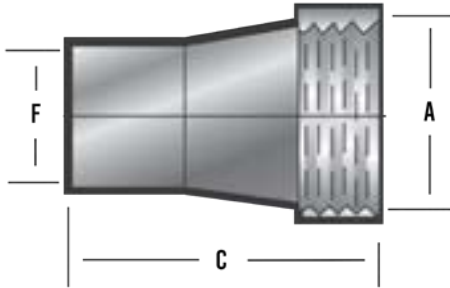
Additional sizes available.

Please give us a call or email us at:
chada@chadasales.com



Standard Adapters

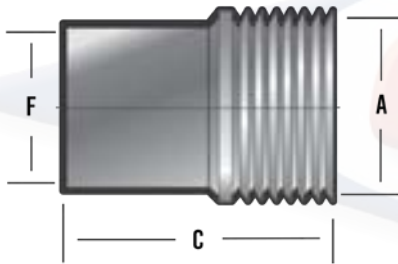
Female Adapter - Straight



Female Adapter

Part No.	Size	Gauge	A (FNPT)	C	F (OD)
MFA-2020	2" to 2"	16	2"	6"	2"
MFA-2021	2" to 2 1/8"	16	2"	6"	2 1/8"
MFA-2525	2 1/2" to 2 1/2"	16	2 1/2"	6"	2 1/2"
MFA-3030	3" to 3"	16	3"	6"	3"
MFA-3535	3 1/2" to 3 1/2"	16	3 1/2"	6"	3 1/2"
MFA-4040	4" to 4"	16	4"	6 1/2"	4"
MFA-5050	5" to 5"	14	5"	6 3/4"	5"
MFA-6060	6" to 6"	14	6"	7"	6"
MFA-8080	8" to 8"	14	8"	9"	8"
MFA-9090	10" to 10"	12	10"	11"	10"
MFA-9292	12" to 12"	12	12"	13"	12"

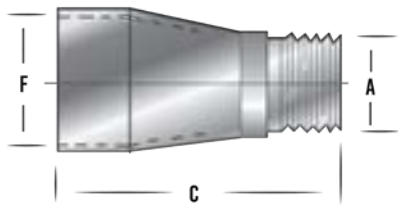
Male Adapter - Straight



Male Adapter

Part No.	Size	Gauge	A (FNPT)	C	F (OD)
MMA-2020	2" to 2"	16	2"	6"	2"
MMA-2021	2" to 2 1/8"	16	2"	6"	2 1/8"
MMA-2525	2 1/2" to 2 1/2"	16	2 1/2"	6"	2 1/2"
MMA-3030	3" to 3"	16	3"	6"	3"
MMA-3535	3 1/2" to 3 1/2"	16	3 1/2"	6"	3 1/2"
MMA-4040	4" to 4"	16	4"	6"	4"
MMA-5050	5" to 5"	14	5"	6 1/2"	5"
MMA-6060	6" to 6"	14	6"	7"	6"
MMA-8080	8" to 8"	14	8"	8"	8"
MMA-9090	10" to 10"	12	10"	8 1/2"	10"
MMA-9292	12" to 12"	12	12"	9"	12"

2 1/8" Reducing Male Adapter



Male Adapter

Part No.	Size	A-MNPT	C	D	F (ID)	F (OD)
MMR-2112	2 1/8" x 1 1/4"	1 1/4"	5 3/4"	-	-	2 1/8"
MMR-2115	2 1/8" x 1 1/2"	1 1/2"	5 3/4"	-	-	2 1/8"
MMR-2112-EX	2 1/8" x 1 1/4"	1 1/4"	5 3/4"	1 1/4"*	2 1/8"	-
MMR-2115-EX	2 1/8" x 1 1/2"	1 1/2"	5 3/4"	1 1/4"*	2 1/8"	-

*Expansion Depth

When ordering, specify type of material where applicable: Aluminum, Carbon Steel, Galvanized or Stainless Steel

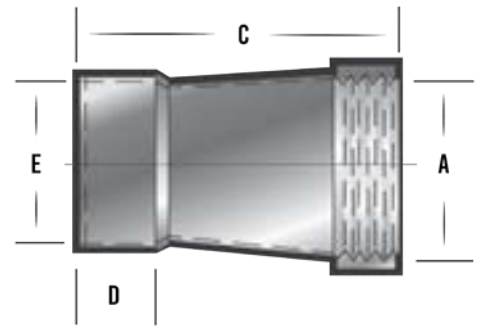
11 Gauge Adapters available. Please call for details.



Standard Adapters

Female Adapter - Expanded

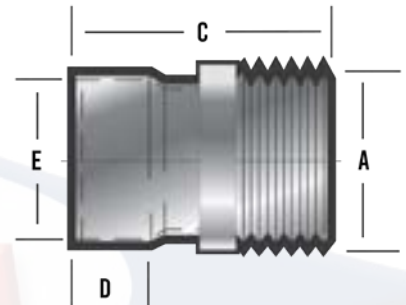
Part No.	Size	Gauge	A-MNPT	C	D	E (ID)
MFE-2020	2" to 2"	16	2"	6"	1 1/8"	2"
MFE-2021	2" to 2 1/8"	16	2"	6"	1 3/8"	2 1/8"
MFE-2525	2 1/2" to 2 1/2"	16	2 1/2"	6"	1 3/8"	2 1/2"
MFE-3030	3" to 3"	16	3"	6"	1 3/8"	3"
MFE-3535	3 1/2" to 3 1/2"	16	3 1/2"	6"	1 3/8"	3 1/2"
MFE-4040	4" to 4"	16	4"	6 1/2"	1 3/8"	4"
MFE-5050	5" to 5"	14	5"	6 3/4"	1 5/8"	5"
MFE-6060	6" to 6"	14	6"	7"	1 5/8"	6"



Female Adapter Expanded

Male Adapter - Expanded

Part No.	Size	Gauge	A-MNPT	C	D	E (ID)
MME-2020	2" to 2"	16	2"	6"	1 1/8"	2"
MME-2021	2" to 2 1/8"	16	2"	6"	1 3/8"	2 1/8"
MME-2525	2 1/2" to 2 1/2"	16	2 1/2"	6"	1 3/8"	2 1/2"
MME-3030	3" to 3"	16	3"	6"	1 3/8"	3"
MME-3535	3 1/2" to 3 1/2"	16	3 1/2"	6"	1 3/8"	3 1/2"
MME-4040	4" to 4"	16	4"	6 1/2"	1 3/8"	4"
MME-5050	5" to 5"	14	5"	6 3/4"	1 5/8"	5"
MME-6060	6" to 6"	14	6"	7"	1 5/8"	6"

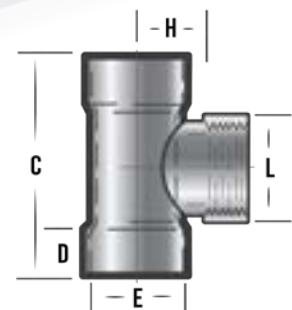


Male Adapter Expanded

Adapter Tee

Part No.	Size	C	D	E (ID)	H	L-FNPT
MAT-2120*	2 1/8" to 2"	4 13/16"	1 3/8"	2 1/8"	1 9/16"	2"
MAT-2520	2 1/2" to 2"	6 1/2"	1 3/8"	2 1/2"	2 1/8"	2"
MAT-3020	3" to 2"	6 1/2"	1 3/8"	3"	2 3/4"	2"
MAT-3520	3 1/2" to 2"	6 7/8"	1 3/8"	3 1/2"	3 7/16"	2"
MAT-4020	4" to 2"	6 7/8"	1 3/8"	4"	3 7/16"	2"

*Available only in Cast Gray Iron, Zinc, Nickel Plated or Cast Aluminum

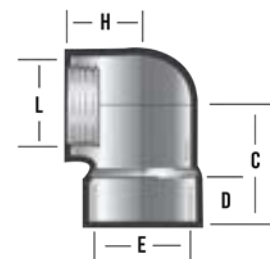


Adapter Tee

90° Adapter Elbow

Part No.	Size	C	D	E (ID)	H	L-FNPT
MAL-2120*	2 1/8" to 2"	2 9/16"	1 3/8"	2 1/8"	1 9/16"	2"

*Available only in Cast Gray Iron, Zinc, Nickel Plated or Cast Aluminum

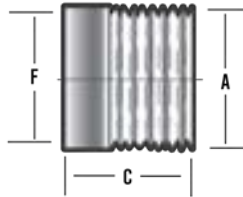


90° Adapter Elbow



Standard Adapters

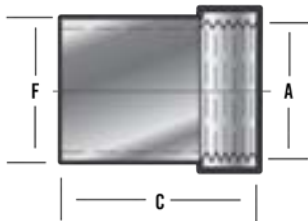
• Materials: Aluminum, Carbon Steel, Galvanized Steel & Stainless Steel



Male Adapter Nipple

Male Adapter Nipple

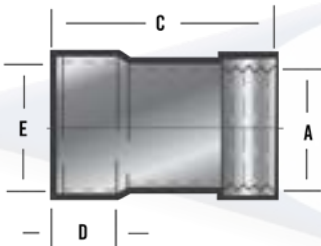
Part No.	Size	A-MNPT	C	E (ID)
MAN-2120	2 1/8"	2"	2"	2 1/8"



Female Reducing Adapter

Female Reducing Adapter

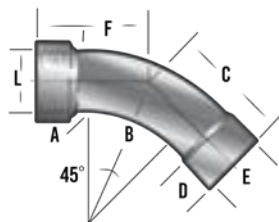
Part No.	Size	Gauge	A-FNPT	C	F (OD)
MFA-2520	2" to 2 1/2"	16	2"	4 1/4"	2 1/2"



Female Reducing Adapter Expanded

Female Reducing Adapter Expanded

Part No.	Size	Gauge	A-FNPT	C	D	E (ID)
MFA-2520-EX	2" to 2 1/2"	16	2"	4 1/4"	1 3/8"	2 1/2"



45° Female Adapter Elbow

45° Female Adapter Elbow

Part No.	Size	A (OD)	Gauge	B	C	D	E (ID)	L-FNPT
MEF-2120	2 1/8" to 2"	2 1/8"	16	5"	4 1/16"	1 3/8"	2 1/8"	2"
MEF-2520	2 1/2" to 2"	2 1/2"	16	6"	4 1/2"	1 3/8"	2 1/2"	2"
MEF-2525	2 1/2" to 2 1/2"	2 1/2"	16	6"	4 1/2"	1 3/8"	2 1/2"	2 1/2"

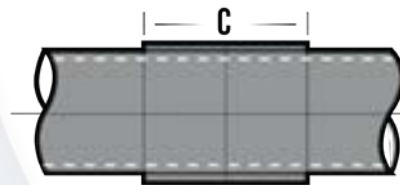
Methods of Joining

Slip Couplings

Part No.	Size	Gauge	C	ID
MSC-2000	2"	16	3"	2"
MSC-2100	2 1/8"	16	3"	2 1/8"
MSC-2500	2 1/2"	16	3 1/2"	2 1/2"
MSC-3000	3"	16	4"	3"
MSC-3500	3 1/2"	16	4 1/2"	3 1/2"
MSC-4000	4"	16	5"	4"
MSC-5000	5"	14	6"	5"
MSC-6000	6"	14	7"	6"
MSC-8000	8"	14	8"	8"
MSC-9000	10"	14	10"	10"
MSC-9200	12"	12	12"	12"
MSC-9400	14"	12	14"	14"

Can be used for joining any two straight ends of tubing or fittings. The slip coupling is a solid sleeve that fits the OD of the joint which can then be glued, brazed, welded, or covered by shrink sleeves.

- 2-1/8" through 14" OD
- Wall Thickness: 16, 14, 12 Gauge
- Materials: Aluminum, Carbon Steel, Galvanized Steel, Stainless Steel



Slip Coupling

Shrink Sleeves

Part No.	Fits Tube OD Size	Sleeve Length
MSS-2100	2 1/8"	4"
MMS-3000	2 1/2"	4 1/2"
MSS-3500	3 1/2"	4 1/2"
MSS-4000	4"	4"
MSS-4500	4 1/2"	4 1/2"
MSS-5000	5"	4 1/2"
MSS-6000	6"	4 1/2"
MSS-8000	8"	9"
MSS-10000	10"	9"
MSS-12000	12"	9"

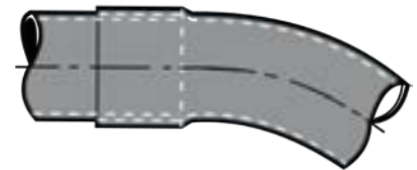
A heat shrinkable polyolefin band that literally shrinks and encircles the connection giving it mechanical strength and a positive seal. It can be used in conjunction with a slip coupling or when using expanded fittings. Gluing, brazing and welding operations are eliminated.



Shrink Sleeve

Expanded Fittings

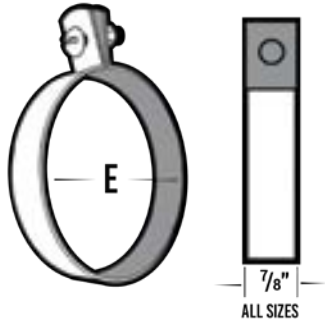
This type of connection enables a straight section of tubing to slip inside the expanded end of the fitting. The two pieces can then be "locked" together by any one of several techniques - brazing, welding, industrial adhesive or shrink sleeves. Not available in 11 gauge material. Joining methods are for use in low pressure (under 15 PSIG) systems.



Expanded Fitting

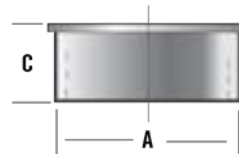
Methods of Joining

When ordering, specify type of material where applicable: Aluminum, Carbon Steel, Galvanized Steel, Stainless Steel



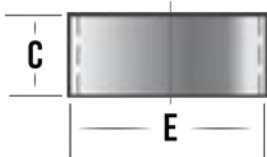
Tube Hangers

Part No.	Size	Gauge	E (ID)
MBH-2100	2 1/8"	16	2 1/8"
MBH-2500	2 1/2"	16	2 1/2"
MBH-3000	3"	16	3"
MBH-3500	3 1/2"	16	3 1/2"
MBH-4000	4"	16	4"
MBH-5000	5"	16	5"
MBH-6000	6"	16	6"
MBH-8000	8"	16	8"
MBH-10000	10"	16	10"
MBH-12000	12"	16	12"
MBH-14000	14"	16	14"



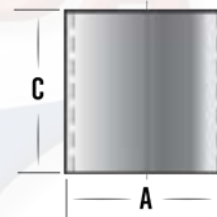
Tube Plugs

Part No.	Size	Gauge	A (OD)/(ID)	C
MTP-2100	2 1/8"	16	2 1/8" OD	1 3/8"
MTP-2500	2 1/2"	16	2 1/2" OD	1 3/8"
MTP-3000	3"	16	3" OD	1 3/8"
MTP-3500	3 1/2"	16	3 1/2" OD	1 3/8"
MTP-4000	4"	16	4" OD	1 3/8"
MTP-5000	5"	14	5" OD	1 5/8"
MTP-6000	6"	14	6" OD	1 5/8"
MTP-8000	8"	14	8" ID	1 3/4"
MTP-1000	10"	12	10" ID	2"
MTP-1200	12"	12	12" ID	2"
MTP-1400	14"	12	14" ID	2"



Slip Welding Rings

Part No.	Size	C	E (ID)	Gauge
MWR-2100	8"	3"	8"	14
MWR-2500	10"	3"	10"	12
MWR-3000	12"	3"	12"	12
MWR-4000	14"	3"	14"	12



Tube Nipples

Part No.	Size	Gauge	A (OD)	C
MTN-2100	2 1/8"	16	2 1/8"	2 1/2"
MTN-2500	2 1/2"	16	2 1/2"	2 1/2"
MTN-3000	3"	16	3"	2 1/2"
MTN-3500	3 1/2"	16	3 1/2"	2 1/2"
MTN-4000	4"	16	4"	2 1/2"
MTN-5000	5"	16	5"	3"
MTN-6000	6"	14	6"	3"
MTN-8000	8"	14	8"	4"
MTN-10000	10"	14	10"	5"
MTN-12000	12"	14	12"	6"
MTN-14000	14"	12	14"	7"



Inlet Valves

Heavy duty inlet valves provide for a quick connection of the male hose coupling to the vacuum cleaning system. These parts are designed for insertion into a 2" FNPT threaded fitting adapting to a 2-1/8" tube size. Valves have self-closing covers and are available in galvanized and stainless steel, as well as nickel plated models. Escutcheon plates allow for a more attractive wall installation.

The same body is used for all three valves, only the bore varies. MIV-150 and MIV-200 use a slight taper for hose adapter retention. MIV-200-CLIP and MIV-180 utilize a clip on the valve lid for retention instead. Hose adapters are constructed of heavy-duty galvanized steel.



Inlet Valve
(For use with open tubing or when a flush mounting is not required)

Inlet Valves

Part No.	Bore	MNPT Size
MIV-2015	1.5"	2.0"
MIV-2018	1.8"	2.0"
MIV-2020	2.0"	2.0"
MIV-2020-CLIP	2.0"	2.0"

Escutcheon Plates

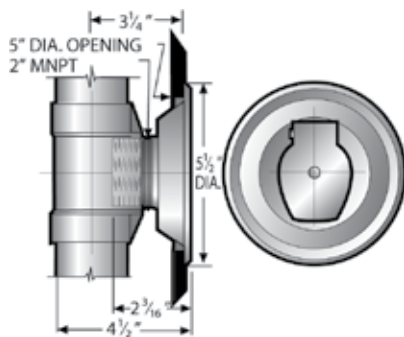
Part No.	Type
10253	Zinc
23939	Stainless
25079	Nickel



Inlet Valve with Escutcheon
(For a flush mounted installation)

Inlet Valve Accessories for Installation and Operation

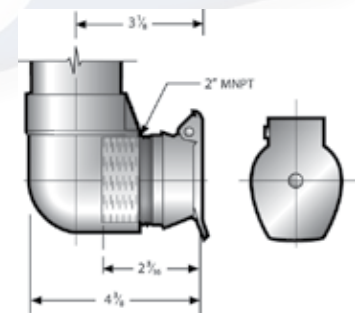
Hose Adapter Part No.	Hose Size	Inlet Valve Part No.	Wrench Part No.
MHA-150	1 1/2" ID	MIV-150	VW-150
MHA-180	1 1/2" ID	MIV-180	VW-180
MHA-200	2" ID	MIV-200	VW-180
MHA-200-RING	2" ID	MIV-200-CLIP	VW-180



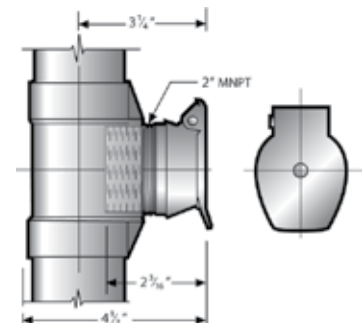
Valve with escutcheon and tee fitting. Can also be used with 90° adapter elbow



Inlet Valve with escutcheon being tightened into place with installation wrench



Valve shown in 90° adapter elbow
(Part No. AE-211)



Valve shown in tube fitting (Part No. AT-212)



Gaylord Vacuum Wands

Unloading powders or pellets made easy with our line of Gaylord Vacuum Wands. Seven models available in aluminum (standard), carbon steel, stainless steel and plastic (shock-free). Available in diameters ranging from 1-1/2" to 4" and lengths 48" to 54". Basic, Standard, Deluxe and Dissipator series of Gaylord Wands offer the user a variety of options including air adjusting, "stay" clip, handle and filtering screens.



Basic Model - Aluminum Construction

Includes six air register holes and stand off loop at bottom.

Standard Length			Extended Length		
Diameter	Part No.	Length	Diameter	Part No.	Length
1 1/2"	GBA-15U	48"	1 1/2"	GBA-15UL	54"
2"	GBA-20U	48"	2"	GBA-20UL	54"
2 1/2"	GBA-25U	48"	2 1/2"	GBA-25UL	54"
3"	GBA-30U	48"	3"	GBA-30UL	54"
4"	GBA-40U	48"	4"	GBA-40UL	54"



Standard Model - Aluminum Construction

Includes adjustable air register ring and stand off loop at bottom.

Standard Length			Extended Length		
Diameter	Part No.	Length	Diameter	Part No.	Length
1 1/2"	GSA-15U	48"	1 1/2"	GSA-15UL	54"
2"	GSA-20U	48"	2"	GSA-20UL	54"
2 1/2"	GSA-25U	48"	2 1/2"	GSA-25UL	54"
3"	GSA-30U	48"	3"	GSA-30UL	54"
4"	GSA-40U	48"	4"	GSA-40UL	54"



Deluxe Model - Aluminum Construction

Includes adjustable air register ring, stand off loop, operator handle

Standard Length			Extended Length		
Diameter	Part No.	Length	Diameter	Part No.	Length
1 1/2"	GDA-15U	48"	1 1/2"	GDA-15UL	54"
2"	GDA-20U	48"	2"	GDA-20UL	54"
2 1/2"	GDA-25U	48"	2 1/2"	GDA-25UL	54"
3"	GDA-30U	48"	3"	GDA-30UL	54"
4"	GDA-40U	48"	4"	GDA-40UL	54"

Mechanical Plugs

One of the major benefits of mechanical plugs over pneumatic plugs is mechanical plugs can be used in long term applications. Unlike pneumatic plugs, which can lose air pressure over time, mechanical plugs do not use air pressure, resulting in a more secure seal.



Econ-O-Grip® Plug

- A cost-effective method for plugging open ended pipe
- Great pipe dust cover
- Natural Rubber "O" Ring
- Not recommended for use in a pressure test



Petro Econ-O-Grip® Plug

- Chemical Resistant NBR rubber
- Stainless Hardware
- Cost effective chemical resistant plug
- Not recommended for use in a pressure test



Sure-Grip® Plug

- Natural Rubber "O" Ring
- Polypropylene Construction - no metal parts
- Fits all types of pipe at nominal sizes
- Can be used as a permanent or temporary plug



Kwik 'N Sure® Plug

- Works in all types of pipe
- Works well for plugging water line stubs
- Wing nut on the 0.39" through 1.25" sizes
- Hex nut on the 1.5" through 5" sizes
- Natural Rubber "O" Ring

Gripper Plugs

The Gripper® has become the most popular mechanical plug on the market. And our Gripper plug, unlike other mechanical plugs, are great for long term applications.

The "Original" Gripper® Plug

- Ideal for plumbing system tests
- Made with glass reinforced ABS Plastic
- Extra-large wing nut (easy to install)
- Natural Rubber "O" Ring
- End of Pipe - seals only at the end of a pipe
- Inside of Pipe - seals inside pipe as far as needed



Hub-Fit Gripper® Plug

- Ideal for use in hub fittings
- Great for use in bell-end pipe
- Natural Rubber "O" Ring
- Made with glass reinforced ABS Plastic
- Pressure rated for conducting DWV tests
- Yellow color for greater visibility in pipe



Clean-Out Gripper® Plug

- Patented threaded "O" ring - ensures airtight seal
- Guaranteed to seal any and all damaged threads
- Stainless Steel hardware prevents corrosion
- Made with glass reinforced ABS Plastic
- Natural Rubber "O" Ring
- Black color blends well with cast iron pipe
- NPT sized including hard to find 3 1/2"

