

Non-Gasketed Single Wall Round Catalog



www.ehgduct.com

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Y-Branch

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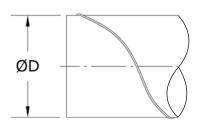
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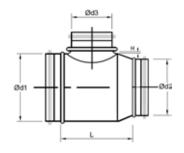
Spiral Duct Corrugated/Non-corrugated - SC/SN9 **Elbows** Reducers Concentric Reducers - RC/RCF19 Fabricated Concentric Reducers - RC/RCF20 Fabricated Eccentric Reducers - RE/REF21 **Taps** 45° Boot-Style Tap - PBF/PB......22 Pressed or Fabricated Saddle Tap - PS......23 45° Lateral or Conical Saddle Tap for Round - PV45/PC.....24 Tees/Crossing Tees Bullhead Tee - TBH/TRBH26 45° Boot-Style Tee - TB/TRB27 45° Boot-Style Crossing Tee - XB/XRB28 Conical Tee - TC/TRC29 Conical Crossing Tee - XC/XRC30 Assembled Tee - TS/TRS31 Assembled Crossing Tee - XS/XRS32 45° Lateral Crossing Tee - XV45/XRV4534

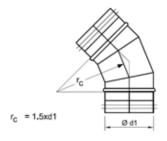
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Nomenclature Definitions









Smart Part Anatomy Nomenclature / Abbreviations

PRODUCT	Designation And Description	PRODUCT	Designation And Description
DUCT	SC = Corrugated Single Wall Round Spiral Duct SN - Noncorrugated Single Wall Round Spiral Duct	ELBOWS	E = 1.5 Radius Elbow Stamped Or With 3 - 5 Gores ER = 1.0 Radius Elbow Stamped Or With 3 - 4 Gores
REDUCERS	RC = Reducer Concentric RCF = Reducer Concentric RE = Reducer Ecentric REF = Reducer Ecentric	END CAPS	ED = End Duct EF = End Fitting
COUPLINGS	CD = Coupling Duct CF = Coupling Fitting	TAKE-OFFS	PT = Straight Take Off PR = Radius Take Off
TEES	TBH = Bull Head Tee TRBH = Reducing Bull Head Tee TB = Tee With Boot Tap TRB = Reducing Tee With Boot Tap TC = Tee With Conical Tap TRC = Reducing Tee With Conical Tap TS = Straight Tee TRS = Reducing Straight Tee		XB = Boot Style Crossing Tee XRB = Reducing Boot Style Crossing Tee XC = Conical Crossing Tee XRC = Reducing Conical Crossing Tee XS = Crossing Tee XRS = Reducing Crossing Tee XV = Lateral Crossing Tee XRV = Reducing Lateral Crossing Tee
LATERAL TEES	TV = Tee With Lateral Tap TRV = Reducing Tee With Lateral Tap	Y-BRANCH	Y = Y Branch
TAPS	PB = Boot Tap PBF = Boot Tap Flat PS = Press Tap PV = Lateral Tap PVF = Lateral Tap Flat PC = Conical Tap PCF = Conical Tap Flat	DAMPERS	DS = Damper DT = Damper DSIL = Combination Damper with Take-Off DSILR = Combination Damper with Take-Off DSPS = Combination Damper with Saddle Tap

REQUIRED FOR ORDERING

OPTIONAL FOR ORDERING SMACNA STANDARDS PROVIDED IF NOT GIVEN

CONNECTION	DIAMETER (INCH)	PART DESIGNATION	MATERIAL	GAUGE
N= Nongasketed	Diameter	See Chart Above	G9 = G90 Galvanized S4 = S304 Stainless S6 = S316 Stainless GN = Galvanneal / Paint Grip AL = Aluminum	Gauge
Eg = U	Eg = 16	Eg = CD	<i>Eg</i> = G9	Eg = 24

= 16" Diameter Coupling Duct In Galvanized 24 Gauge



Rectangular to Round Conversion

b\a	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
3	3.8	4.6	5.2	5.7	6.2	6.6	7.0	7.3	7.7	8.0	8.3	8.5	8.8	9.0	9.3	9.5	9.7	9.9	10.1
4	4.4	5.3	6.1	6.7	7.3	7.8	8.3	8.7	9.1	9.5	9.8	10.1	10.4	10.7	11.0	11.3	11.5	11.8	12.0
5	4.9	6.0	6.9	7.6	8.3	8.9	9.4	9.9	10.3	10.8	11.2	11.5	11.9	12.2	12.6	12.9	13.2	13.5	13.8
6	5.3	6.6	7.6	8.4	9.1	9.8	10.4	11.0	11.5	12.0	12.4	12.8	13.2	13.6	14.0	14.4	14.7	15.0	15.3
7	5.7	7.1	8.2	9.1	9.9	10.7	11.3	11.9	12.5	13.0	13.5	14.0	14.5	14.9	15.3	15.7	16.1	16.5	16.8
8	6.1	7.6	8.7	9.8	10.7	11.5	12.2	12.9	13.5	14.1	14.6	15.1	15.6	16.1	16.5	17.0	17.4	17.8	18.2
9	6.4	8.0	9.3	10.4	11.3	12.2	13.0	13.7	14.4	15.0	15.6	16.2	16.7	17.2	17.7	18.2	18.6	19.0	19.5
10	6.7	8.4	9.8	10.9	12.0	12.9	13.7	14.5	15.2	15.9	16.5	17.1	17.7	18.3	18.8	19.3	19.8	20.2	20.7
11	7.0	8.8	10.2	11.5	12.6	13.5	14.4	15.3	16.0	16.8	17.4	18.1	18.7	19.3	19.8	20.4	20.9	21.4	21.8
12	7.3	9.1	10.7	12.0	13.1	14.2	15.1	16.0	16.8	17.6	18.3	19.0	19.6	20.2	20.8	21.4	21.9	22.4	22.9
13	7.6	9.5	11.1	12.4	13.7	14.7	15.7	16.7	17.5	18.3	19.1	19.8	20.5	21.1	21.8	22.4	22.9	23.5	24.0
14	7.8	9.8	11.5	12.9	14.2	15.3	16.4	17.3	18.2	19.1	19.9	20.6	21.3	22.0	22.7	23.3	23.9	24.5	25.0
15	8.0	10.1	11.8	13.3	14.6	15.8	16.9	17.9	18.9	19.8	20.6	21.4	22.1	22.9	23.5	24.2	24.8	25.4	26.0
16	8.3	10.4	12.2	13.7	15.1	16.4	17.5	18.5	19.5	20.4	21.3	22.1	22.9	23.7	24.4	25.1	25.7	26.4	27.0
17	8.5	10.7	12.5	14.1	15.6	16.8	18.0	19.1	20.1	21.1	22.0	22.9	23.7	24.4	25.2	25.9	26.6	27.2	27.9
18	8.7	11.0	12.9	14.5	16.0	17.3	18.5	19.7	20.7	21.7	22.7	23.5	24.4	25.2	26.0	26.7	27.4	28.1	28.8
19	8.9	11.2	13.2	14.9	16.4	17.8	19.0	20.2	21.3	22.3	23.3	24.2	25.1	25.9	26.7	27.5	28.2	28.9	29.6
20	9.1	11.5	13.5	15.2	16.8	18.2	19.5	20.7	21.9	22.9	23.9	24.9	25.8	26.6	27.5	28.3	29.0	29.8	30.5
22	9.5	12.0	14.1	15.9	17.6	19.1	20.4	21.7	22.9	24.0	25.1	26.1	27.1	28.0	28.9	29.7	30.5	31.3	32.1
24	9.8	12.4	14.6	16.5	18.3	19.9	21.3	22.7	23.9	25.1	26.2	27.3	28.3	29.3	30.2	31.1	32.0	32.8	33.6
26	10.1	12.8	15.1	17.1	19.0	20.6	22.1	23.5	24.9	26.1	27.3	28.4	29.5	30.5	31.5	32.4	33.3	34.2	35.1
28	10.4	13.2	15.6	17.7	19.6	21.3	22.9	24.4	25.8	27.1	28.3	29.5	30.6	31.7	32.7	33.7	34.6	35.6	36.4
30	10.7	13.6	16.1	18.3	20.2	22.0	23.7	25.2	26.6	28.0	29.3	30.5	31.7	32.8	33.9	34.9	35.9	36.8	37.8
32	11.0	14.0	16.5	18.8	20.8	22.7	24.4	26.0	27.5	28.9	30.2	31.5	32.7	33.9	35.0	36.1	37.1	38.1	39.0
34	11.3	14.4	17.0	19.3	21.4	23.3	25.1	26.7	28.3	29.7	31.1	32.4	33.7	34.9	36.1	37.2	38.2	39.3	40.3
	29	23	23		23	23		23	23	30.5									
38	11.8	15.0	17.8	20.2	22.4	24.5	26.4	28.1	29.8	31.3	32.8	34.2	35.6	36.8	38.1	39.3	40.4	41.5	42.6
40	12.0	15.3	18.2	20.7	22.9	25.0	27.0	28.8	30.5	32.1	33.6	35.1	36.4	37.8	39.0	40.3	41.5	42.6	43.7
42	12.3	15.6	18.5	21.1	23.4	25.6	27.6	29.4	31.2	32.8	34.4	35.9	37.3	38.7	40.0	41.3	42.5	43.7	44.8
44	12.5	15.9	18.9	21.5	23.9	26.1	28.1	30.0	31.8	33.5	35.1	36.7	38.1	39.5	40.9	42.2	43.5	44.7	45.8
46	12.7	16.2	19.3	21.9	24.4	26.6	28.7	30.6	32.5	34.2	35.9	37.4	38.9	40.4	41.8	43.1	44.4	45.7	46.9

 $D_e = 1.30 [(ab)^{0.625}/(a+b)^{0.250}]$

a = length of one side of rectangular duct (inch)

b = length of adjacent side of rectangular duct (inch)

D_e = round equivalent of rectangular duct for equal friction and capacity (inch)

Source: 2017 ASHRAE Fundamentals, p. 21.8

Example

Convert rectangular duct 22" x 12" to equivalent round

a = 22, b = 12; from above table D_a = 17.6, <u>use 18" diameter</u>



Specifications

MATERIAL (*) not available in pressed construction

- Galvanized steel conforming to ASTM standards A653 and A924
- Stainless steel type 304L conforming to ASTM standard A240*
- Stainless steel type 316L conforming to ASTM standard A240*
- Aluminum 3003-H14 conforming to ASTM standard B209*

SURFACE FINISH

- Galvanized steel (galvanized in accordance with latest SMACNA HVAC Duct Construction Standards).
- Stainless steel type 304L 2B Mill Finish (#4 finish available upon request)
- Stainless steel type 316L 2B Mill Finish (#4 finish available upon request)
- ProCoat[™] (outside only) or ProCoat[™] Plus (inside and outside) on duct and/or fittings
 - · Standard color = white (additional color options available)
 - · Average coating thickness of 4 mils (0.004 inch)
 - · ProCoat™ to meet or exceed 500 hour Salt Spray Test per ASTM B117
 - ProCoat™ Plus to meet or exceed 3,000 hour Salt Spray Test per ASTM B117
- Antimicrobial EHG AM™ is EPA registered for HVAC applications as a water based mircobiostatic formula designed for control growth of microorganisms.

THICKNESS

Material thickness constructed from galvanized steel in accordance with the latest SMACNA's HVAC Duct Construction Standards for +10" water gauge pressure. **Consult factory for negative pressure systems.**

CONSTRUCTION

- A. Duct is of spiral lock seam construction with a mechanically formed seam locking indentation evenly spaced along the spiral seam. All spiral duct 8" diameter and larger shall incorporate multiple corrugations between spiral seams.
- B. Fittings shall be manufactured using one or more of the following construction methods:
 - · Overlapped edges stitch welded along the entire length of the fitting
 - Standing seam gore locked and internally sealed
 - Button punched and internally sealed
 - Elbows 3" through 12" diameter will be die stamped and continuously stitch welded.

CONNECTIONS

Fitting ends shall be sized to slip-fit into spiral duct of the same nominal size. Fitting to fitting connections shall be made by use of duct size "CF" couplings. Duct to duct connections require fitting size "CD" couplings.

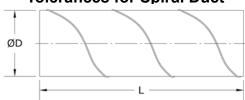
JOINT SEALING

All joints must be sealed by the installer during the installation process. The type of sealant used as well as the method and level of application should be as directed by the specification and in accordance with the sealant manufacturer's published installation instructions.



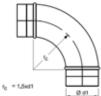
Tolerance, Gauge, & e-dimensions

Tolerances for Spiral Duct



Ø D (inch)	Ø D Tolerance (inch) minmax.	t* (gauge)	t** (gauge)
3	2.950 - 2.969	28	28
4	3.950 - 3.969	28	28
5	4.950 - 4.969	28	28
6	5.950 - 5.969	28	28
7	6.950 - 6.972	28	28
8	7.950 - 7.972	28	28
9	8.950 - 8.972	28	28
10	9.950 - 9.976	28	28
11	10.950 - 10.976	28	28
12	11.950 - 11.976	28	28
14	13.950 - 13.976	28	28
16	15.936 - 15.969	26	26
18	17.936 - 17.969	26	26
20	19.936 - 19.972	26	26
22	21.936 - 21.972	26	26
24	23.936 - 23.976	26	26
26	25.936 - 25.976	24	24
28	27.934 - 27.976	24	24
30	29.924 - 29.969	24	24
32	31.924 - 31.976	24	24
34	33.924 - 33.976	24	24
36	35.924 - 35.988	24	24
38	37.912 - 37.976	24	24
40	39.912 - 39.976	24	24
42	41.912 - 41.976	24	24
44	43.912 - 43.988	22	22
46	45.912 - 45.998	22	22
48	47.912 - 47.988	22	22
50	49.912 - 49.988	22	22
52	51.913 - 51.992	22	22
54	53.913 - 53.992	22	22
56	55.909 - 55.992	22	22
58	57.909 - 57.992	22	22
60	59.909 - 59.992	22	22

Tolerances for Fittings



		-			
Ødx (inch)	Ødx Tolerance (inch) min max.	t* (gauge)	Die Stamped t** (gauge)	Fabricated t** (gauge)	e (inch)
3	2.902 - 2.917	28	24		1.625
4	3.902 - 3.917	28	24		1.625
5	4.902 - 4.917	28	24		1.625
6	5.898 - 5.917	28	24		1.625
7	6.894 - 6.913	28	24		1.625
8	7.890 - 7.913	28	24		1.625
9	8.886 - 8.909	28	24		1.625
10	9.882 - 9.909	28	24		2.375
11	10.882 - 10.909	28	24		2.375
12	11.882 - 11.909	28	24		2.375
14	13.878 - 13.909	28		24	2.375
16	15.862 - 15.898	26		24	3.125
18	17.862 - 17.898	26		24	3.125
20	19.858 - 19.898	24		24	3.125
22	21.858 - 21.898	24		24	3.125
24	23.854 - 23.898	24		24	3.125
26	25.854 - 25.898	22		22	3.125
28	27.846 - 27.894	22		22	4.000
30	29.839 - 29.886	22		22	4.000
32	31.835 - 31.886	22		22	4.000
34	33.835 - 33.886	22		22	4.000
36	35.831 - 35.886	22		22	4.000
38	37.819 - 37.874	22		20	4.000
40	39.819 - 39.874	22		20	4.750
42	41.819 - 41.874	22		20	4.750
44	43.815 - 43.874	20		20	4.750
46	45.815 - 45.874	20		20	4.750
48	47.815 - 47.874	20		20	4.750
50	49.815 - 49.874	20		20	4.750
52	51.811 - 51.874	20		20	4.750
54	53.811 - 53.874	20		20	4.750
56	55.799 - 57.862	20		20	4.750
58	57.799 - 57.862	20		20	4.750
60	59.795 - 59.862	22		20	4.750

- In accordance with the latest SMACNA HVAC Duct Construction Standards for +10" wg
- EHG Manufacturing Standard

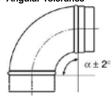
Length Tolerances

Length - L, H, e, D, d (inch)	Tolerances (inch)
1 - 10	± 3/8
12 - 16	± 5/8
18 - 28	± ¾
30 - 50	± 1
52 - 60	± 1 1/4

Weight Tolerance ±10%

Thickness Tolerance ±10%

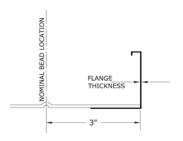
Angular Tolerance



Fitting Dimension For Flange Connections Our products are designed with a male/female slip connections. For

connections, refer to the e-dimension listed in the chart above.

Factory-applied Flange					
Collar Length	Make-up Length				
3"	3" + flange thickness				



Surface/Finish

Stainless steel fittings provided with a 2B mill finish.

Coated products have a minimum surface hardness of 2H when tested per ASTM D33-63-92A with an average thickness of 4 mils. ProCoat™ (OD only) or ProCoat™ Plus (ID & OD) coated duct.



[&]quot;-----" = Not currently available

Spiral Duct



<u>Description</u> corrugated spiral lock seam duct

- SMACNA RL-1 spiral seam
- · evenly spaced integral seam locking feature
- multiple corrugations on all duct 8" 60" all other diameters available upon request
- standard lengths: 120"
- built in accordance with the latest SMACNA HVAC Duct Construction Standard for G9, GN, S4 & S6 = +10 iwg, AL = +2 iwg
- · available lengths:

G90 and GN: 12" - 240" S4 and S6: 12" - 240"

AL: 12" - 120"



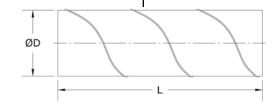
Description

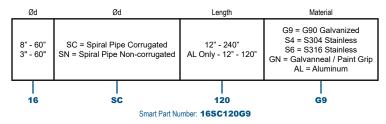
non corrugated spiral lock seam duct

- SMACNA RL-1 spiral seam
- · evenly spaced integral seam locking feature
- available in diameters 3"- 60" all other diameters available upon request
- standard lengths: 120"
- built in accordance with the latest SMACNA HVAC Duct Construction Standard for G9, GN, S4 & S6 = +10 iwg, AL = +2 iwg
- available lengths:

G90 and GN : 12" - 240" S4 and S6 : 12" - 240"

AL - 12": 120"



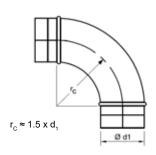






Description

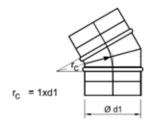
- 1.5" radius 90° elbow
 - · die stamped
 - · continuous stitch welded
 - · rolled edges
 - galvanized steel only
 - available in diameters 3" 12" note: 11" diameter is fabricated



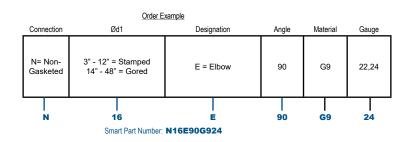


Description

- 1.5" radius 90° elbow
 - 5-piece gored
 - · internally sealed
 - available in diameters 14" 48" note: E 90 elbows 50" diameter and larger supplied as two E 45 elbows and a CF coupling



$$r_c \approx 1.5 \times d_1$$



Elbows

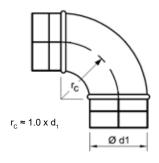




Description

1.0" radius 90° elbow

- · die stamped
- · continuous stitch welded
- rolled edges
- galvanized steel only
- available in diameters 3" 12" note: 11" diameter is fabricated

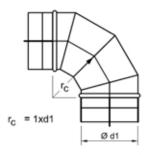


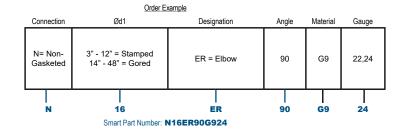


Description

1.0" radius 90° elbow

- · 4-piece gored
- · internally sealed
- available in diameters 14" 48"
 note: ER 90 elbows 50" diameter and larger supplied
 as two ER 45 elbows and a CF coupling





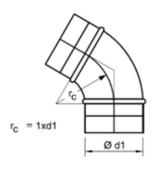






Description

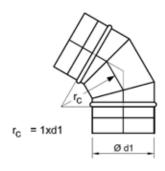
- 1.0" radius 60° elbow
 - · die stamped
 - · continuous stitch welded
 - rolled edges
 - galvanized steel only
 - available in diameters 3" 12" note: 11" diameter is fabricated

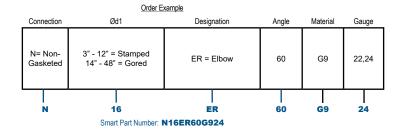




Description

- 1.0" radius 60° elbow
 - 3-piece gored
 - · internally sealed
 - available in diameters 14" 48"



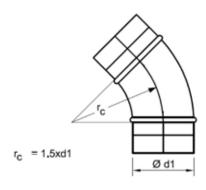


Elbows



Description

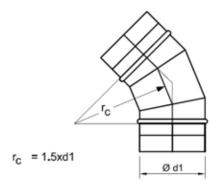
- 1.5" radius 45° elbow
 - · die stamped
 - · continuous stitch welded
 - · rolled edges
 - galvanized steel only
 - available in diameters 3" 12" note: 11" diameter is fabricated

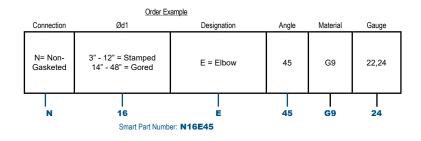




Description

- 1.5" radius 45° elbow
 - · 3-piece gored
 - · internally sealed
 - available in diameters 14" 48"







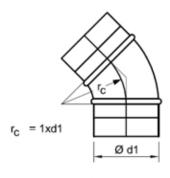




Description

1.0" radius 45° elbow

- · die stamped
- · continuous stitch welded
- rolled edges
- galvanized steel only
- available in diameters 3" 12" note: 11" diameter is fabricated

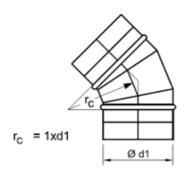


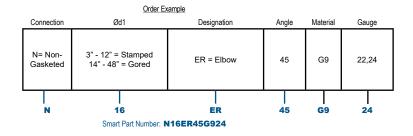


Description

1.0" radius 45° elbow

- 3-piece gored
- · internally sealed
- available in diameters 14" 48"





Elbows

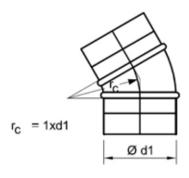




Description

1.0" radius 30° elbow

- · die stamped
- · continuous stitch welded
- rolled edges
- galvanized steel only
- available in diameters 3" 12" note: 11" diameter is fabricated

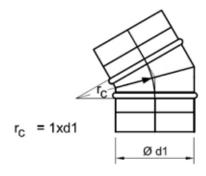


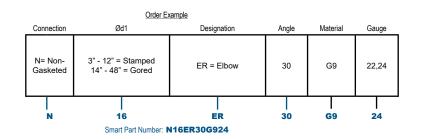


Description

1.0" radius 30° elbow

- · 2-piece gored
- internally sealed
- available in diameters 14" 48"





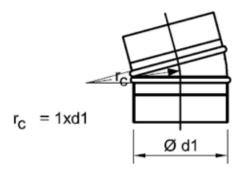




Description

1.0" radius 15° elbow

- · die stamped
- continuous stitch welded
- rolled edges
- galvanized steel only
- available in diameters 3" 12" note: 11" diameter is fabricated

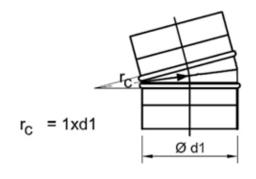


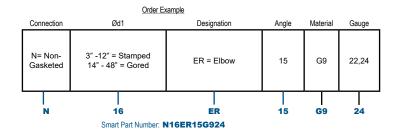


Description

1.0" radius 15° elbow

- · 2-piece gored
- · internally sealed
- available in diameters 14" 48"





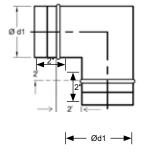
Elbows





<u>Description</u> mitered elbow

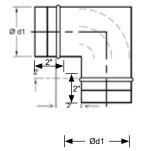
- · rolled edge
- · 2" standard throat length
- available in diameters 4"- 60"

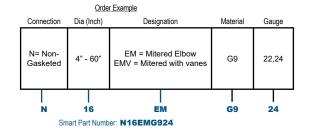




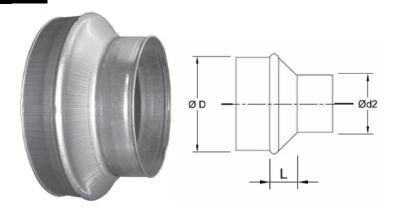
<u>Description</u> mitered elbow with vanes

- · rolled edge
- 2" standard throat length
- · turning vanes evenly spaced
- available in diameters 4"- 60" number of vanes vary by diameter
 - Ø 4"-10" = 2 vanes
 - Ø 12"-14" = 3 vanes
 - Ø 16"-20" = 4 vanes
 - Ø 22"-60" = 5 vanes









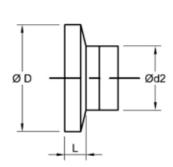
Description concentric reducer

· galvanized construction only

Dimension (die stamped)

Ød1	Ød2	L
inch	inch	inch
4	3	3/4
5	3	1
5	4	7/8
6	3	13/4
6	4	1¼
6	5	3/4
7	4	2
7	5	1½
7	6	1
8	4	21/4
8	5	1%
8	6	1¼
8	7	3/4
9	7	21/8
9	8	11/8
10	6	21/4
10	7	1%
10	8	11/8
10	9	5/8
12	8	21/8
12	10	1%
14	10	2
14	12	1%



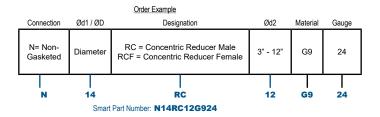


Description concentric reducer

- ØD = duct size slips over fitting end
- galvanized construction only

<u>Dimension</u> (die stamped)

Ød1	Ød2	L
inch	inch	inch
4	3	2%
5	3	25//8
5	4	2%
6	3	3%
6	4	21/8
6	5	2%
7	4	3½
7	5	3
7	6	2½
8	4	3¾
8	5	31/4
8	6	21/8
8	7	2%
9	7	3¾
9	8	23/4
10	6	4%
10	7	31/4
10	8	23/4
10	9	21/4
12	10	23/4
14	10	43/4
14	12	35/8



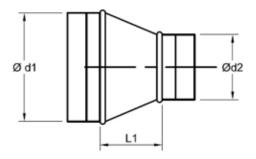
Reducers





<u>Description</u> fabricated concentric reducer

L1 = (Ød1 - Ød2)*(*) minimum 4"

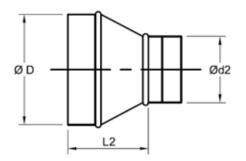


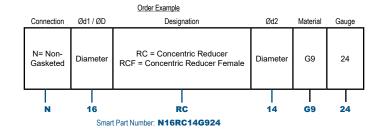


Description

fabricated concentric reducer

- · ØD end slips onto fitting end
- L1 = (ØD Ød2)* + e dimension (page 11)
 (*) minimum 4"





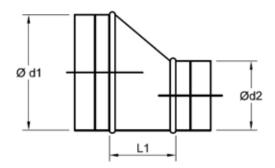






<u>Description</u> fabricated eccentric reducer

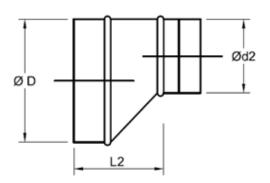
L1 = (Ød1 - Ød2)*(*) minimum 4"

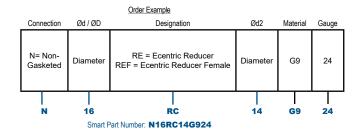




<u>Description</u> fabricated eccentric reducer

- ØD end slips onto fitting end
- L1 = (ØD Ød2)* + e dimension (page 11)
 (*) minimum 4"





Taps

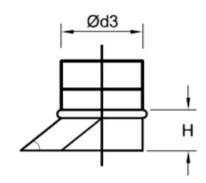


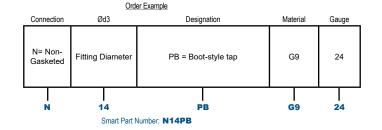
Description 45° boot-style tap

• installed on flat side of duct or plenum

Dimensions

If
$$\emptyset$$
d3 \le 8" H = 4"
If \emptyset d3 = 9"-14", H = 7"
If \emptyset d3 = 15"-26", H = 10"
If \emptyset d3 = 27"-46", H = 13"
If \emptyset d3 = 47"-60", H = 16"





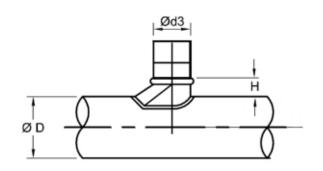


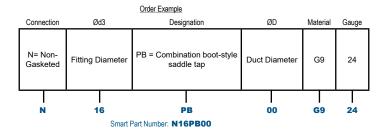
Description

45° combination boot-style saddle tap

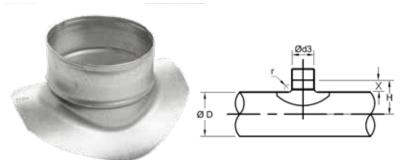
Dimensions

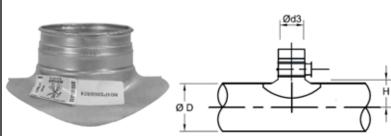
If
$$\emptyset$$
d3 \leq 8", H = 4"
If \emptyset d3 = 9"-14", H = 7"
If \emptyset d3 = 15"-26", H = 10"
If \emptyset d3 = 27"-46", H = 13"
If \emptyset d3 = 47"-60", H = 16"











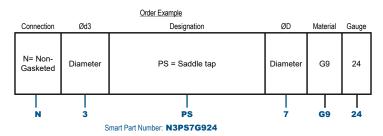
Description pressed saddle tap

- · radius entry
- · limited to galvanized steel only
- available in Ød3 or tap diameters 3"-16", exceptions listed below
- · Material: G90 only

<u>Description</u> fabricated saddle tap

- · sizes listed below
- X = 1"

	Pressed Saddle Taps - Ød3 (inch)										
ØD (inch)	3	4	5	6	7	8	9	10	12	14	16
4	Х	Х									
5	Χ	Х	Х								
6	Х	Х	Х	Х							
7	Х	Х	Х	Х	Х						
8		Х	Х	Х	Х	Х					
9		Х	Х	Х		Х	Х				
10		Х	Х	Х		Х	Х	Х			
12		х	Х	Х		Х	Х	Х	Х		
14		х	Х	Х		Х	Х	Х	Х		
16		х	Х	Х		Х	Х	Х	Х		Х
18		х	Х	Х		Х	Х	Х	Х		Х
20		х	Х	Х		Х	Х	Χ	Х		Х
22			Х	Х		Х	Х	Χ	Х		Х
24			Х	Х		Х	Х	Х			Х



Taps

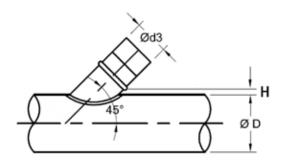




<u>Description</u> fabricated 45° lateral tap for round

• H = 2.5"

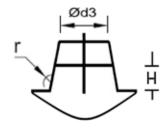
special order: 15°, 30°, 60°
 i.e. for a 15° 12PV1520

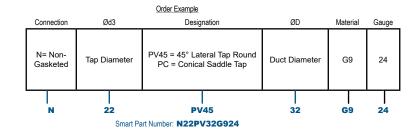




Description conical saddle tap

- H = 6"
- L = Ød3 + 2"









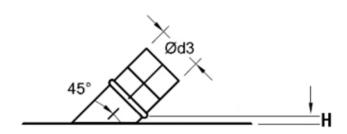


Description

fabricated 45° lateral tap for flat surface

• H = 2.5"

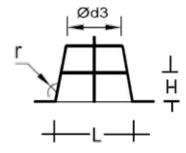
special order: 15°, 30°, 60°
 i.e. for a 15° 12PVF1520

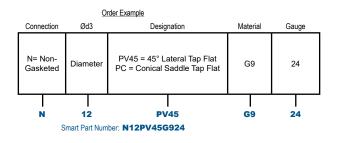




<u>Description</u> conical tap for flat surface

• flat lip = %"- %" depending on diameter





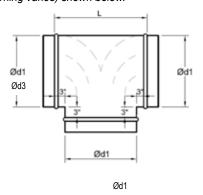
Tees



<u>Description</u> bullhead tee

• L = Ød1 + 6"

TBHV (with turning vanes) shown below.





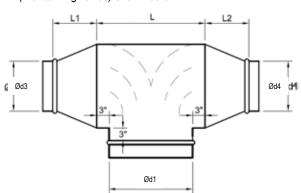
Description

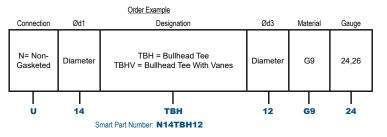
bullhead reducing tee

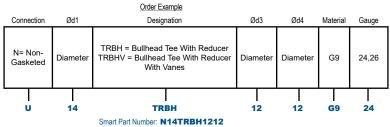
- L = Ød1 + 6"
- L1 = $(Ød1 Ød3)^*$
- $L2 = (Ød1 Ød2)^*$

(*) minimum 4"

TRBHV (with turning vanes) shown below.













Description 45° boot-style tee

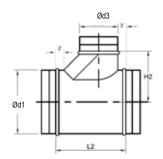
- · assembled with PB tap
- Ød3 ≤ Ød1 diameter
- L2 = Ød3 + H2 + 4"
- If \emptyset d3 \leq 8", H2 = 4",

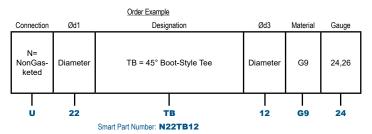
If \emptyset d3 = 9-14", H2 = 7",

If Ød3 = 15-26", H2 = 10",

If \emptyset d3 = 27-46", H2 = 13", and

If \emptyset d3 = 47-60", H2 = 16"







Description

45° boot-style tee with reducer

- · assembled with PB tap
- Ød3 ≤ Ød1 diameter
- L2 = (Ød3 + H2 + 4") + (Ød1 Ød2)*

• If $\emptyset d3 \le 8$ ", H2 = 4",

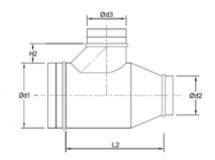
If \emptyset d3 = 9-14", H2 = 7",

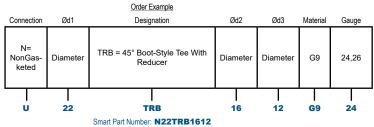
If \emptyset d3 = 15-26", H2 = 10",

If \emptyset d3 = 27-46", H2 = 13", and

If \varnothing d3 = 47-60", H2 = 16"

(*) minimum of 4"





Crossing Tees





Description

45° boot-style crossing tee

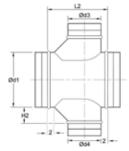
- · assembled with PB taps
- Ød3 and Ød4 ≤ Ød1 diameter
 Ød3 ≥ Ød4
- L = Ød3 + H2 + 4"
- If $\emptyset d3 \le 8$ ", H2 = 4",

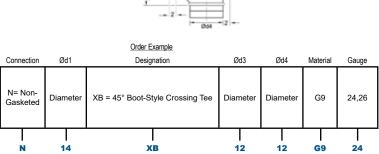
If
$$\emptyset$$
d3 = 9-14", H2 = 7",

If
$$\emptyset$$
d3 = 15-26", H2 = 10",

If
$$\emptyset$$
d3 = 27-46", H2 = 13", and

If
$$\varnothing$$
d3 = 47-60", H2 = 16"





Smart Part Number: N14XB1212



Description

45° boot-style crossing tee with reducer

- · assembled with PB taps
- Ød3 and Ød4 ≤ Ød1 diameter Ød3 ≥ Ød4
- L = (Ød3 + H2 + 4") + (Ød1 Ød2)*
- If $\emptyset d3 \le 8'' H2 = 4''$,

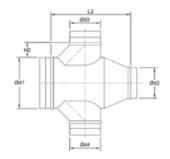
If
$$\emptyset$$
d3 = 9-14", H2 = 7",

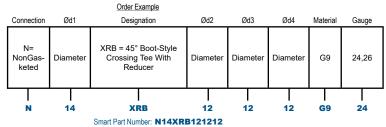
If
$$\emptyset$$
d3 = 15-26", H2 = 10",

If
$$\emptyset$$
d3 = 27-46", H2 = 13", and

If
$$Ød3 = 47-60$$
", $H2 = 16$ "

(*) minimum of 4"





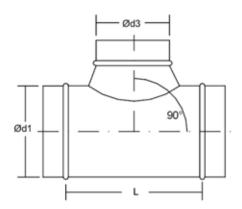


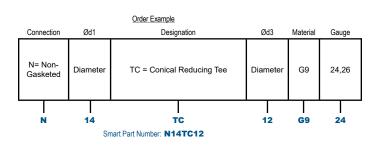




Description conical tee

- L = Ød3 + 8"
- H = 6"
- Ød1 must be 2" or larger than Ød3

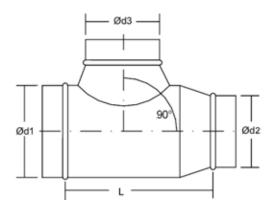


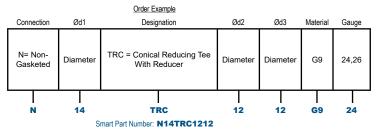




<u>Description</u> conical reducing tee

- L = (Ød3 + 8") + (Ød1 Ød2)*
- H = 6"
- Ød1 must be 2" or larger than Ød3
- (*) minimum of 4"





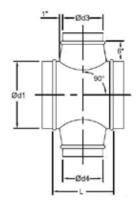
Crossing Tees





<u>Description</u> conical crossing tee

- L = Ød3 + 8"
- H = 6"
- Ød1 must be 2" or larger than Ød3
- Ød3 ≥ Ød4

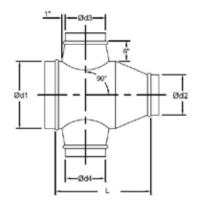


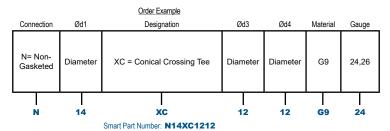


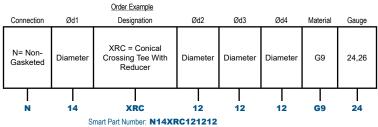
<u>Description</u> conical reducing crossing tee

- $L = (\emptyset d3 + 8") + (\emptyset d1 \emptyset d2)*$
- H = 6"
- Ød1 must be 2" or larger than Ød3
- Ød3 ≥ Ød4

(*) minimum of 4"









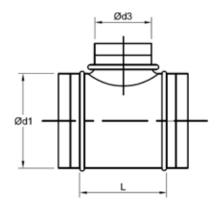


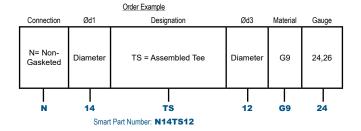


Description

tee with die-stamped (G90 only) or fabricated PS

•
$$L = Ød3 + 6"$$





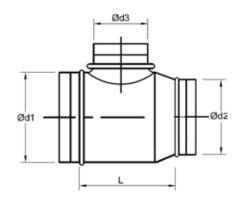


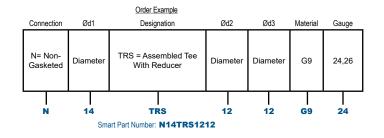
Description

reducing tee with die-stamped (G90 only) or fabricated PS

•
$$L = (Ød3 + 6") + (Ød1 - Ød2)*$$

(*) minimum of 4"





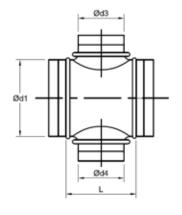
Crossing Tees

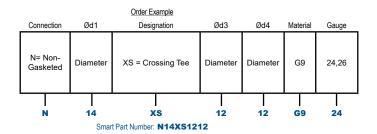




<u>Description</u> crossing tee with die-stamped or fabricated PS

- Ød3 ≥ Ød4
- L = Ød3 + 6"

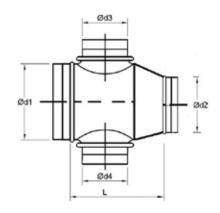


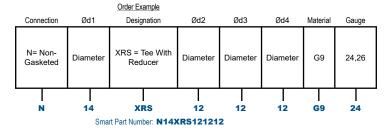




<u>Description</u> reducing crossing tee with die-stamped or fabricated PS

- Ød3 ≥ Ød4
- $L = (\emptyset d3 + 6") + (\emptyset d1 \emptyset d2)*$
- (*) minimum of 4"





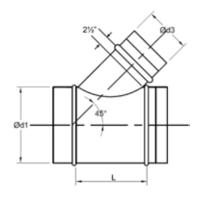


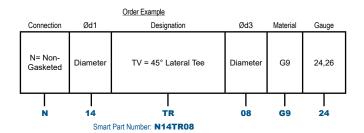


Description 45° lateral tee

- L = Ød3[1/sin(45)] + 4"
- H = 2.5" (constant)(throat height)
- special order: 15°- 30°- 60°

 i.e. TV15





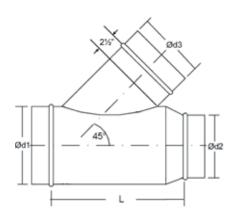


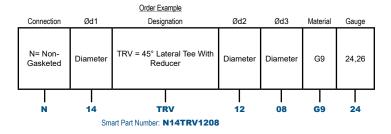
Description

45° lateral reducing tee

- L = Ød3 [1/sin(45)] + 4" + (Ød1 Ød2)*
- H = 2.5" (constant) (throat height)

(*) minimum of 4





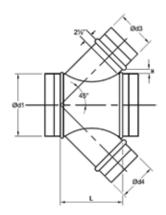
Crossing Tees

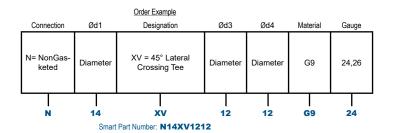




<u>Description</u> 45° lateral crossing tee

- dimension data for Ød4 = Ød3 only
 L = (1.414 x Ød3) + 4"
- H = 2.5" (constant throat height)
 Ød3 ≥ Ød4
- special order: 15°- 30°- 60°
 i.e. XV 15° aa bb cc



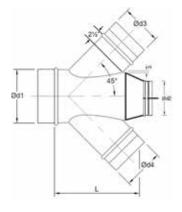


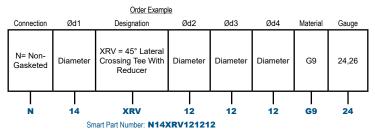


Description

45° lateral reducing crossing tee

- dimension data for Ød4 = Ød3 only
 L = (1.414 x Ød3) + 4"+ (Ød1 Ød2)*
- H = 2.5" (constant throat height)
- Ød3 ≥ Ød4
- (*) minimum of 4"







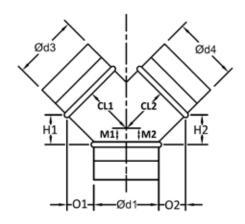


<u>Description</u> directional split fitting: 45°

special order: 15°, 30°, 60°
 i.e. Y 15° - aa - bb - cc

special order: Ød3 or Ød4 < Ød1

• special order: Ød3 ≤ Ød4



Dimensions

 $H1 = [(Ød3 \times 0.5) + (Ød1 \times 0.9)] \times (Ød3 \times 0.5)$

O1 = $[(\emptyset d3 \times 0.5) + (\emptyset d1 \times 0.8)] \times (\emptyset d1 \times 0.5)$

 $H2 = [(Ød4 \times 0.5) + (Ød1 \times 0.9)] \times (Ød4 \times 0.5)$

O2 = $[(Ød4 \times 0.5) + (Ød1 \times 0.8)] \times (Ød1 \times 0.5)$

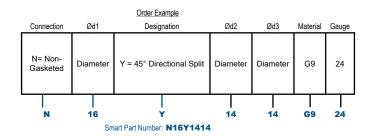
 $M1 = H1 + (Ød3 \times 0.5) 0.707 - (Ød1 \times 0.5) + O1 - (Ød3 \times 0.5) 0.707$

 $M2 = H2 + (\emptyset d4 \times 0.5) 0.707 - (\emptyset d1 \times 0.5) + O2 - (\emptyset d4 \times 0.5) 0.707$

CL1 = $[(Ød1 \times 0.5) + O1 - (Ød3 \times 0.5) 0.707] / 0.707$

 $CL2 = [(Ød1 \times 0.5) + O2 - (Ød4 \times 0.5) 0.707] / 0.707$

Note: These dimensions apply for 45° only. Please call for dimensions on special orders.



Offset

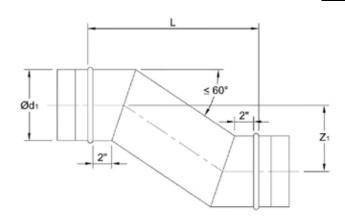


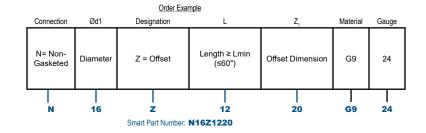


Description one-piece offset

•
$$L_{min} = \begin{bmatrix} \emptyset d_1 \\ 4 \end{bmatrix} + \begin{bmatrix} Z_1 \\ 0.577 \end{bmatrix} + 4$$

Note: SMACNA recommends that offsets be 60° or less







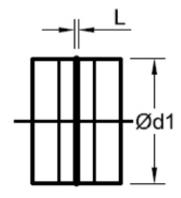
Couplings





<u>Description</u> coupling used for joining duct

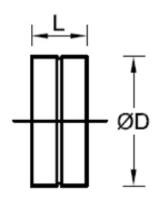
If Ø 3"-20", L = 3/8",
 If Ø 22"-26", L = 1/2"
 If Ø 28"-60", L = 5/8"

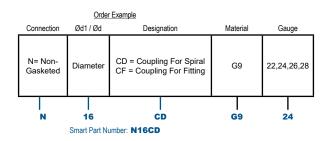




<u>Description</u> coupling for joining fittings

• If \varnothing 3"-9", L = 35%", If \varnothing 10"-14", L = 51%", If \varnothing 16"-26", L = 65%", If \varnothing 28"-38", L = 85%", If \varnothing 40"-60", L = 101%"





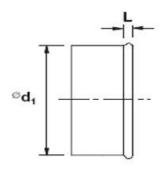
End Caps





Description end cap for duct

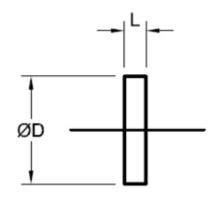
If Ø 3"-20", L = 3/8",
 If Ø 22"-26", L = 1/2"
 If Ø 28"-60", L = 5/8"

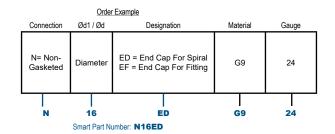




Description end cap for fittings

• If Ø 3"-9", $L = 1\frac{5}{8}$ ", If Ø 10"-14", $L = 2\frac{3}{8}$ ", If Ø 16"-26", $L = 3\frac{1}{8}$ ", If Ø 28"-38", L = 4", If Ø 40"-60", $L = 4\frac{3}{4}$ "





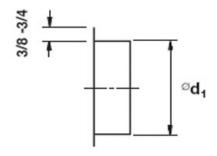






<u>Description</u> take-off/starting collar

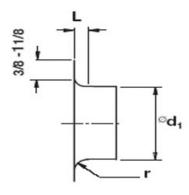
- installed on flat side of duct or plenum
- available in diameters 3"- 60"

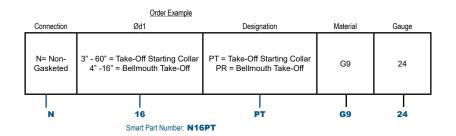




<u>Description</u> stamped radiused bellmouth take-off

- available in 4"-16" (not including 11")
- installed on flat side of duct or plenum
- · Material: G90 only





Dampers



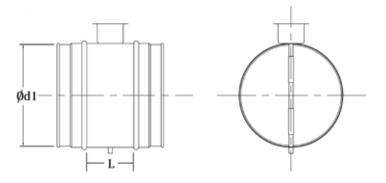




- for use in systems where a complete shutoff of air flow is not required
- gasketed shaft-mounted load bearing bushing to minimize air leakage
- integral shaft-blade assembly
- · 2" sheet metal insulation stand-off
- damper cup height = 2"
- locking blade quadrant w/damper position indicator
- full fitting body assembly with bead stop

Note:

- Ød1 > 14" equipped with extended handle and a reinforced damper blade
- Ød1 > 24" provided with 2" bracket standoff

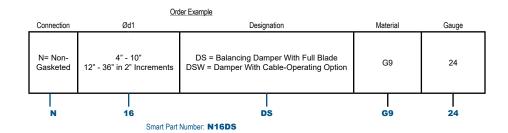


Dimension

21		
Ød1	'L'	Shaft
inch	inch	inch x inch
4	3.9	5/16*
5	3.9	5/16*
6	3.9	5/16*
7	3.9	5/16*
8	3.9	5/16*
9	3.9	5/16*
10	3.5	5/16*
12	3.5	5/16*
14	3.5	5/16*
16	3.75	5/16*
18	3.75	5/16*
20	3.75	5/16*
22	3.75	5/16*
24	3.75	5/16*
26	3.75	5/16*
28	3.75	5/16*
30	3.75	5/16*
32	10.4	1**
34	10.4	1**
36	10.4	1**

^{* 2&}quot; shaft extensions available

^{** 1&}quot; square tube shaft





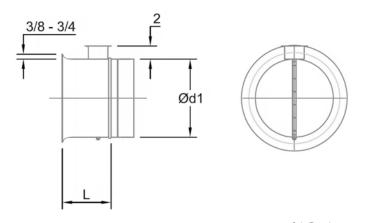




Description

gasketed take-off with damper

- lengths (in):
 diameters 4" 9" : L= 5½"
 diameters 10" 14" : L= 5½"
 diameters 16" 24" : L= 6¾"
- shaft = 5/16" x 5/16"
- 2" shaft extension available
- · Material: G90 only





Description

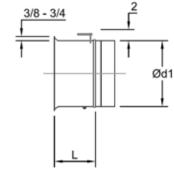
gasketed bellmouth take-off with damper

- assembled with PR radiused bellmouth take-off
- · lengths:

diameters 4" - 9" : L= $7\frac{1}{8}$ " diameters 10" - 14" : L= 9" diameters 16" : L = $10\frac{1}{4}$ "

- $shaft = 5/16" \times 5/16"$
- 2" shaft extension available
- · Material: G90 only

Note: 11" is not available







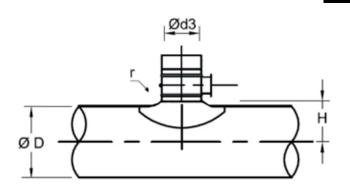
Dampers

DSPS



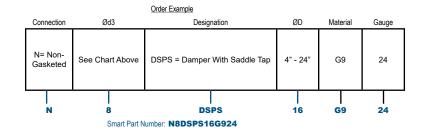
<u>Description</u>
damper (DS) with saddle tap (PS) base

- $shaft = 5/16" \times 5/16"$
- · 2" shaft extensions available



Available in the following sizes (✓):

Available Sizes											
Ød	Ød3										
	3	4	5	6	7	8	9	10	12	14	16
4	✓	√									
5	✓	✓	✓								
6	✓	✓	✓	✓							
7	✓	✓	✓	✓	✓						
8		✓	✓	✓	✓	√					
9		✓	✓	✓	✓	✓	✓				
10		✓	✓	✓	✓	✓	✓	✓			
12		✓	✓	✓	✓	✓	✓	✓	✓		
14		✓	✓	✓		✓	✓	✓	✓	✓	
16		✓	✓	✓		✓	✓	✓	✓	✓	✓
18		✓	✓	✓		✓	✓	✓	✓	✓	✓
20		✓	✓	✓		√	✓	✓	✓	✓	✓
22		✓	✓	✓		✓	✓	✓	✓	✓	✓
24		✓	✓	✓		✓	✓	✓	✓	✓	✓





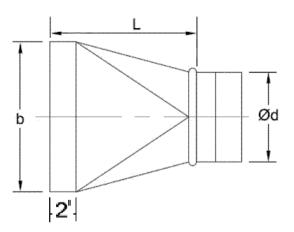
Square-to-Round

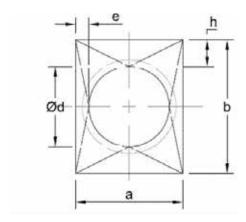


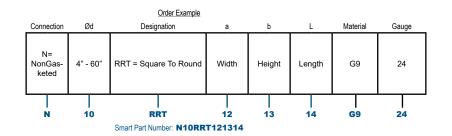


<u>Description</u> square to round transition

- available in Ø 4"- 60"
- 2" raw edge rectangular end
- L = length minimum = 12" max = 60"
- a = rectangular width
- b = rectangular height
- special order: offset styles available













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