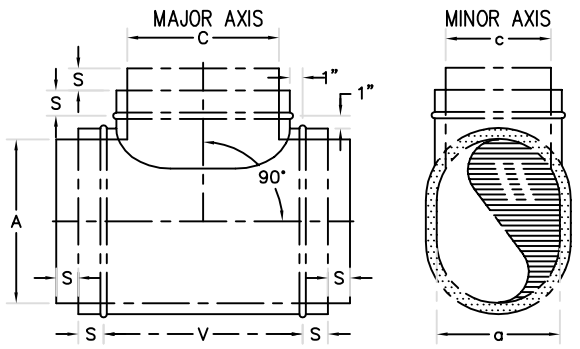




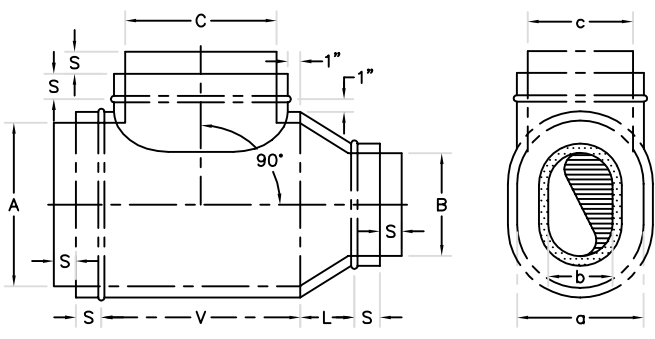
FLAT OVAL  
FITTING STANDARDS  
DOUBLE WALL STRAIGHT TEES

STRAIGHT TEE  
DWOT1



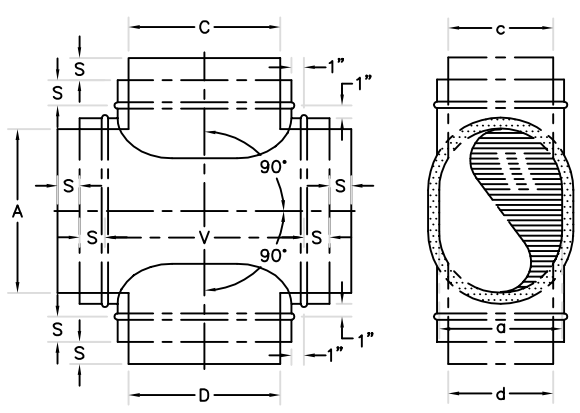
- DIMENSIONAL DATA:
- S=2"
  - V=C+4"

REDUCING TEE  
DWOT1R



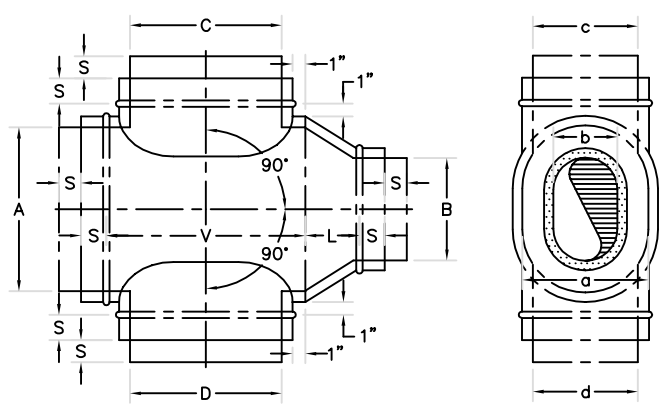
- DIMENSIONAL DATA:
- S=2"
  - V=C+4"
  - L=12" IF GREATER OF (A-B) OR (a-b) ≤ 16
  - L=24" IF GREATER OF (A-B) OR (a-b) > 16

STRAIGHT CROSS  
DWOT2



- DIMENSIONAL DATA:
- S=2"
  - V=LARGEST TAP+4"

REDUCING CROSS  
DWOT2R

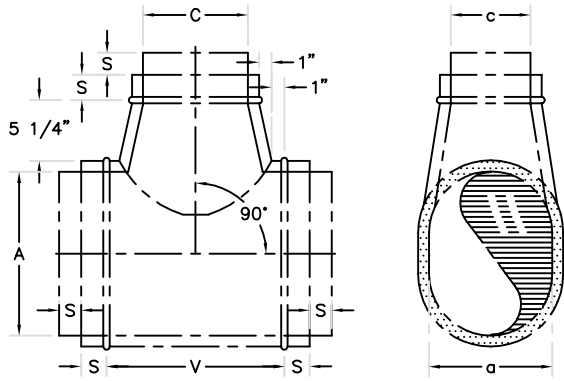


- DIMENSIONAL DATA:
- S=2"
  - V=LARGEST TAP+4"
  - L=12" IF GREATER OF (A-B) OR (a-b) ≤ 16
  - L=24" IF GREATER OF (A-B) OR (a-b) > 16



FLAT OVAL  
FITTING STANDARDS  
DOUBLE WALL CONICAL TEES

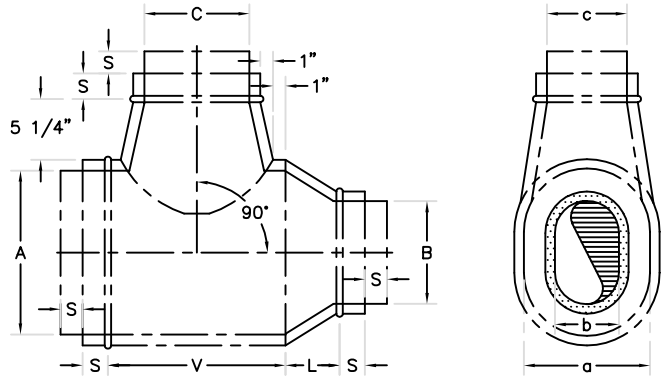
CONICAL TEE  
DWOCT1



DIMENSIONAL DATA:

- S=2"
- V=C+6"

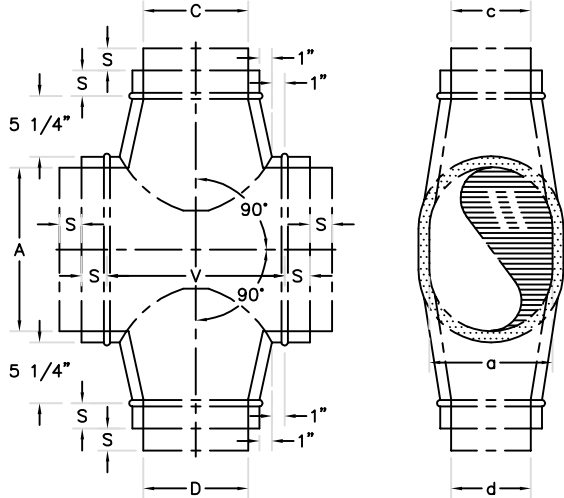
REDUCING CONICAL TEE  
DWOCT1R



DIMENSIONAL DATA:

- S=2"
- V=C+6"
- L=12" IF GREATER OF (A-B) OR (a-b) ≤ 16
- L=24" IF GREATER OF (A-B) OR (a-b) > 16

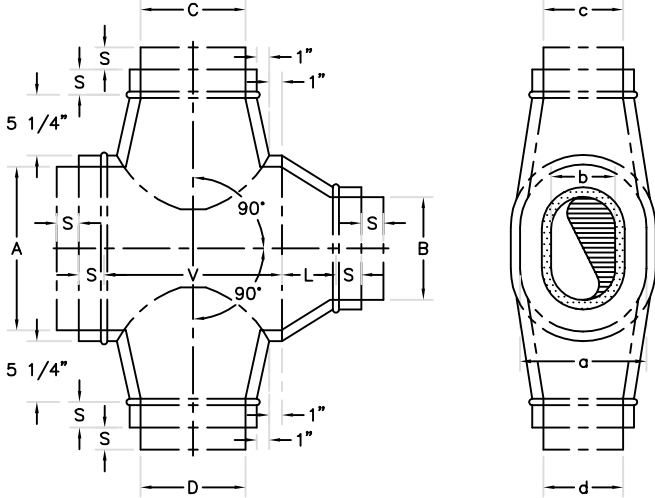
CONICAL CROSS  
DWOCT2



DIMENSIONAL DATA:

- S=2"
- V=LARGEST TAP+6"

REDUCING CONICAL CROSS  
DWOCT2R



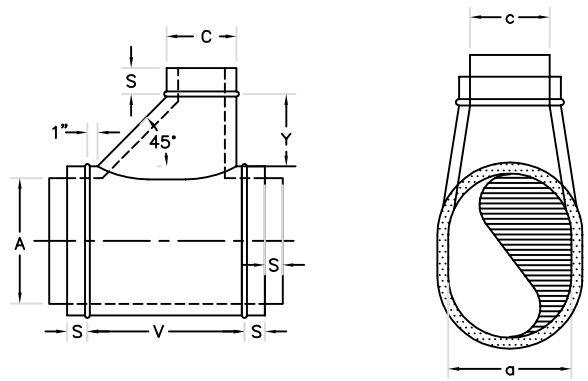
DIMENSIONAL DATA:

- S=2"
- V=LARGEST TAP+6"
- L=12" IF GREATER OF (A-B) OR (a-b) ≤ 16
- L=24" IF GREATER OF (A-B) OR (a-b) > 16



# FITTING STANDARDS DOUBLE WALL COMBINATION TEES

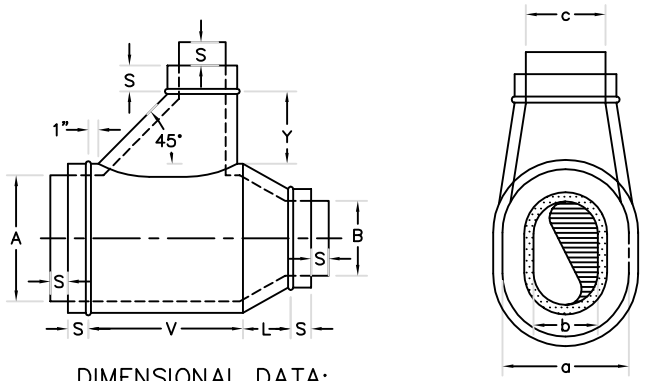
## COMBINATION TEE DWOCMBT1



DIMENSIONAL DATA:

- S=2"
- V=(C+6)+2
- C= 3-16 Y=6"
- C= 17-24 Y=9"
- C= 25-UP Y=12"

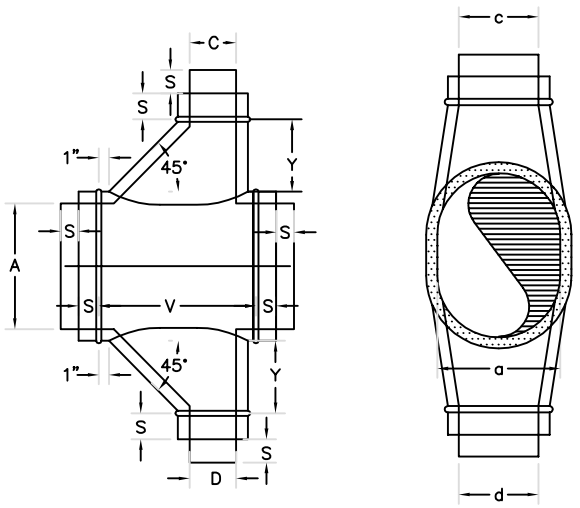
## REDUCING COMBINATION TEE DWOCMBT1R



DIMENSIONAL DATA:

- S=2"
- V=(C+6)+2
- L=A-B (4" MIN.-12" MAX.)
- C= 3-16 Y=6"
- C= 17-24 Y=9"
- C= 25-UP Y=12"

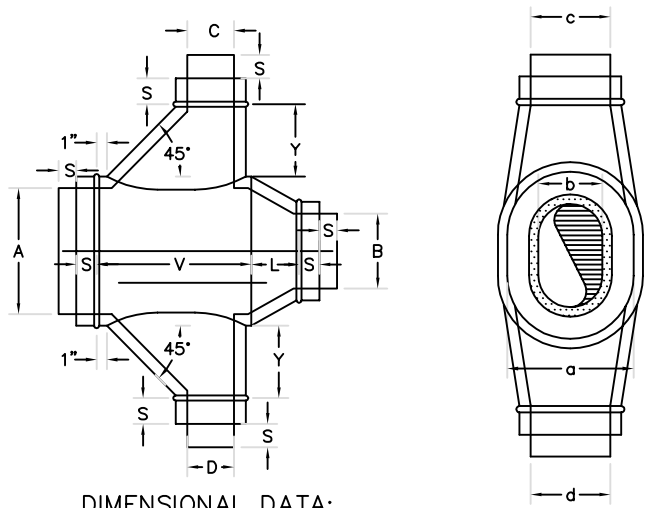
## COMBINATION CROSS DWOCMBT2



DIMENSIONAL DATA:

- S=2"
- V=(LARGEST TAP+6)+2
- C= 3-16 Y=6"
- C= 17-24 Y=9"
- C= 25-UP Y=12"

## REDUCING COMBINATION CROSS DWOCMBT2R

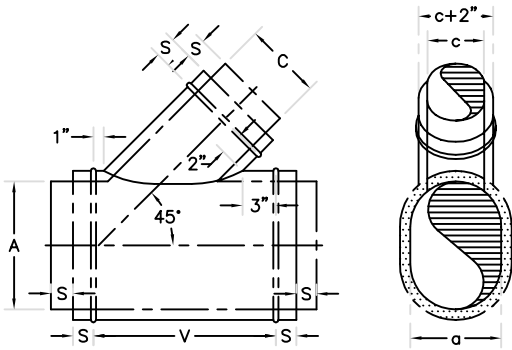


DIMENSIONAL DATA:

- S=2"
- V=(LARGEST TAP+6)+2
- L=A-B (4" MIN.-12" MAX.)
- C= 3-16 Y=6"
- C= 17-24 Y=9"
- C= 25-UP Y=12"

# FLAT OVAL FITTING STANDARDS DOUBLE WALL LATERALS

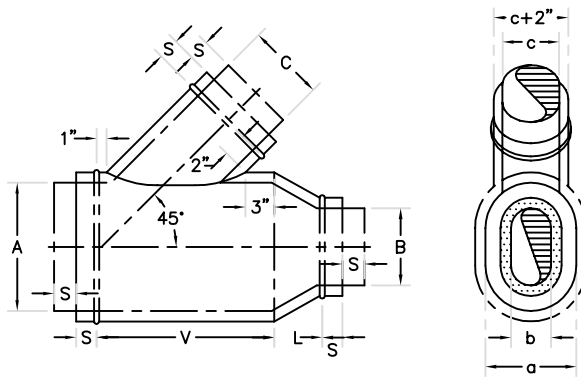
## LATERAL DWOL1



DIMENSIONAL DATA:

- $S=2"$
- $V=(1.414 \times (C+2"))+4"$

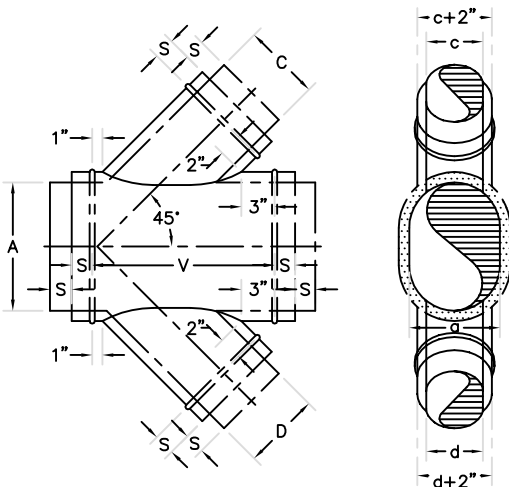
## REDUCING LATERAL DWOL1R



DIMENSIONAL DATA:

- $S=2"$
- $V=(1.414 \times (C+2"))+4"$
- $L=12"$  IF GREATER OF (A-B) OR  $(a-b) \leq 16$
- $L=24"$  IF GREATER OF (A-B) OR  $(a-b) > 16$

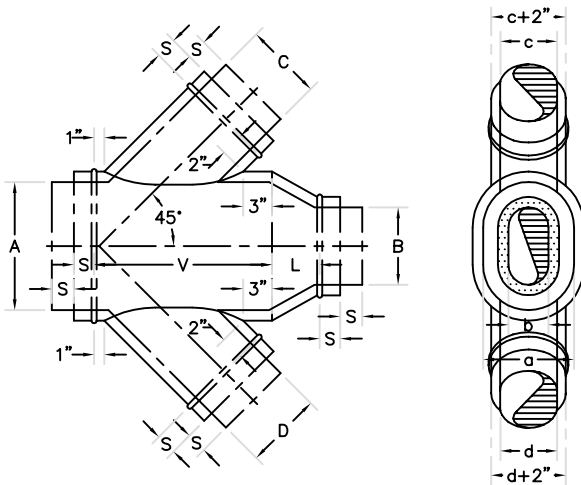
## LATERAL CROSS DWOL2



DIMENSIONAL DATA:

- $S=2"$
- $V=(1.414 \times (C+2"))+4"$

## REDUCING LATERAL CROSS DWOL2R



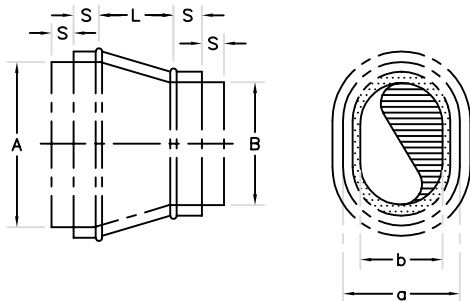
DIMENSIONAL DATA:

- $S=2"$
- $V=(1.414 \times (C+2"))+4"$
- $L=12"$  IF GREATER OF (A-B) OR  $(a-b) \leq 16$
- $L=24"$  IF GREATER OF (A-B) OR  $(a-b) > 16$



FLAT OVAL  
 FITTING STANDARDS  
 DOUBLE WALL FITTINGS  
 REDUCERS

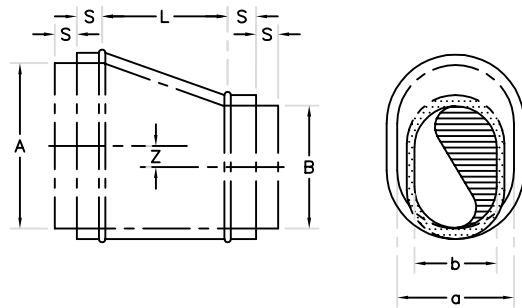
CONCENTRIC REDUCER  
 DWOR1



DIMENSIONAL DATA:

- S=2"
- L=12" IF GREATER OF (A-B) OR (a-b) ≤ 16
- L=24" IF GREATER OF (A-B) OR (a-b) > 16

ECCENTRIC REDUCER  
 DWOER1



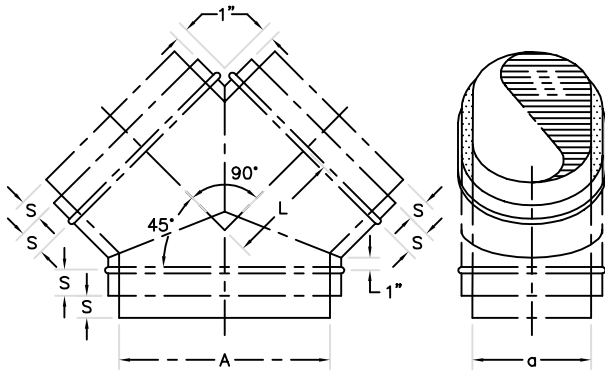
DIMENSIONAL DATA:

- S=2"
- Z=(A-B)/2
- L=12" IF GREATER OF (A-B) OR (a-b) ≤ 16
- L=24" IF GREATER OF (A-B) OR (a-b) > 16



FLAT OVAL  
 FITTING STANDARDS  
 DOUBLE WALL FITTINGS  
 Y-BRANCH

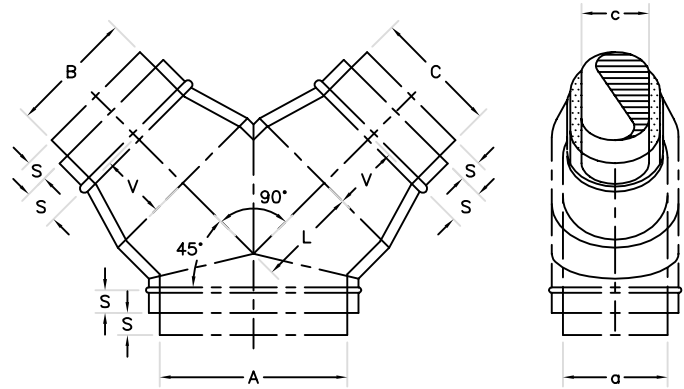
Y-BRANCH  
 DWOY2



DIMENSIONAL DATA:

- $S=2''$
- $L=(A/2)+1''$

REDUCING Y-BRANCH  
 DWOY2R

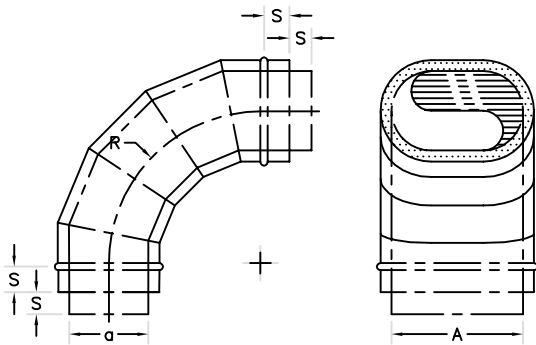


DIMENSIONAL DATA:

- $S=2''$
- $L=(A/2)+1''$
- $V=12''$  IF GREATER OF  $(A-B)$  OR  $(a-b) \leq 16$
- $V=24''$  IF GREATER OF  $(A-B)$  OR  $(a-b) > 16$

GORED ELBOW  
EASY BEND  
DWOEB90

DWOEB(ANGLE)

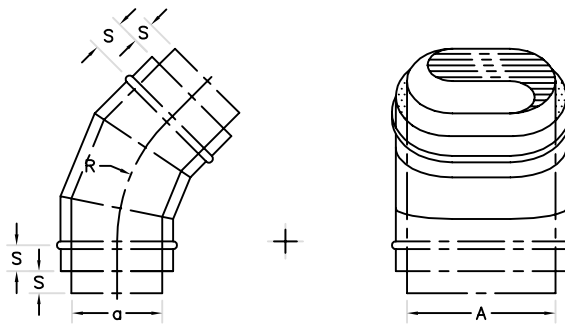


DIMENSIONAL DATA:

- S=2"
  - R=1.5xa
  - ANY ANGLE
- |                  |
|------------------|
| 0-35° - 2 PIECE  |
| 36-71° - 3 PIECE |
| 72-90° - 5 PIECE |

GORED ELBOW  
EASY BEND  
DWOEB45

HARD BEND AVAILABLE

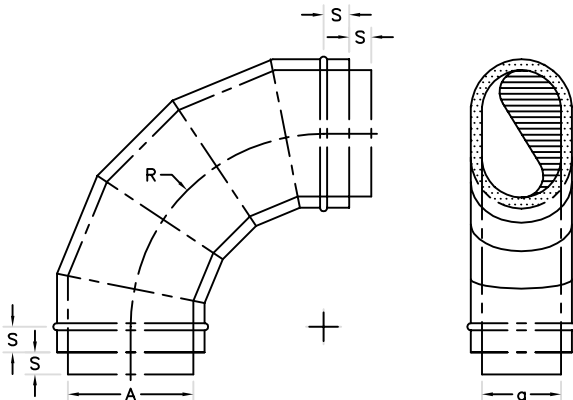


DIMENSIONAL DATA:

- S=2"
- R=1.5xa

GORED ELBOW  
HARD BEND  
DWOHB90

DWOHB(ANGLE)

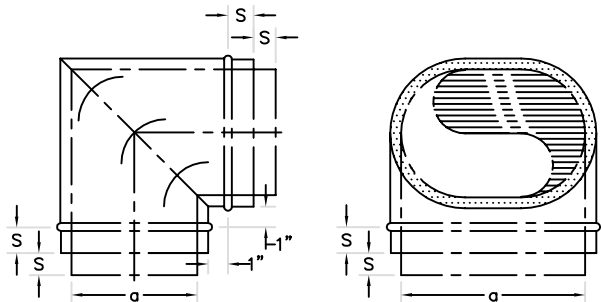


DIMENSIONAL DATA:

- S=2"
  - R=1.5xA
  - ANY ANGLE
- |                  |
|------------------|
| 0-35° - 2 PIECE  |
| 36-71° - 3 PIECE |
| 72-90° - 5 PIECE |

MITERED 90°  
DWOEBV90

EASY BEND  
HARD BEND AVAILABLE



DIMENSIONAL DATA:

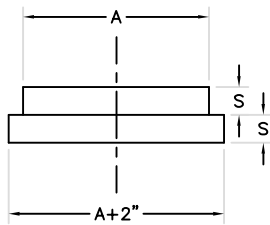
- S=2"
- 90° TYPICAL
- 3" DIA. AND OVER

DIAMETER	NUMBER OF VANES
3"-9"	2
10"-14"	3
15"-19"	4
20"-60"	5
OVER 60"	12" SPACING



FLAT OVAL  
FITTING STANDARDS  
MISC. DOUBLE WALL FITTINGS

INSULATION END  
DWODSA

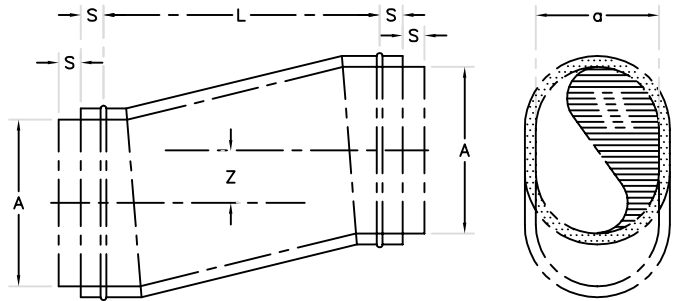


DIMENSIONAL DATA:

- S=2"

FLAT OVAL OFFSET  
DWOHBSET

EASY BEND AVAILABLE



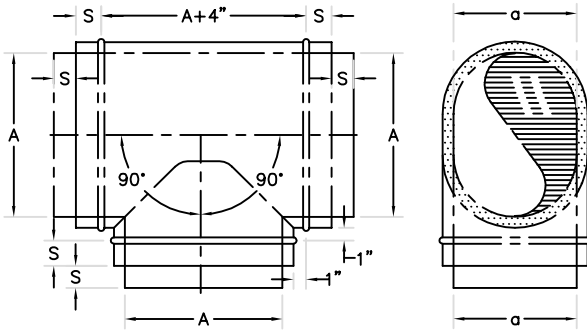
DIMENSIONAL DATA:

- S=2"



FLAT OVAL  
 FITTING STANDARDS  
 DOUBLE WALL FITTINGS  
 BULLHEAD TEE

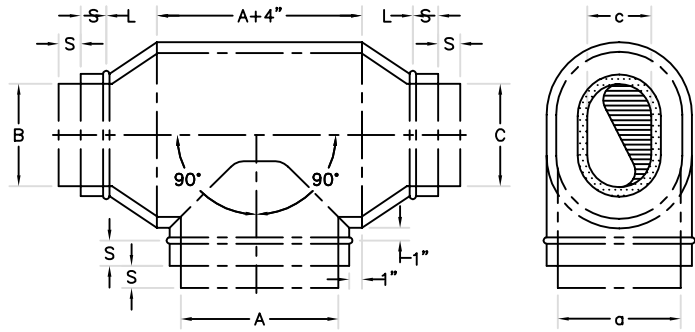
BULLHEAD TEE  
 DWOBT



DIMENSIONAL DATA:

- S=2"
- WITH OR WITHOUT TURNING VANES

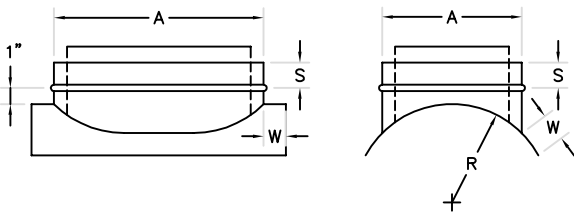
REDUCING BULLHEAD TEE  
 DWOBTR



DIMENSIONAL DATA:

- S=2"
- WITH OR WITHOUT TURNING VANES
- L=12" IF GREATER OF (A-B) OR (a-b) ≤ 16
- L=24" IF GREATER OF (A-B) OR (a-b) > 16

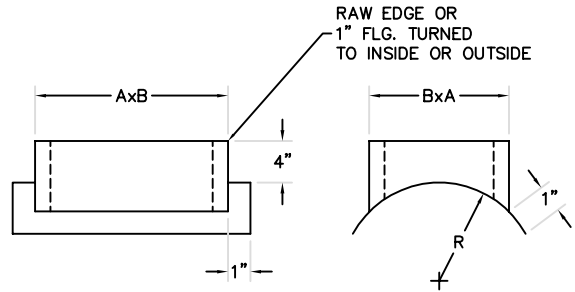
STRAIGHT SADDLE TAP  
DWOTST



DIMENSIONAL DATA:

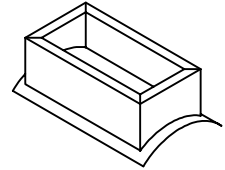
- S=2"
- W=2"
- R=1/2 DIAMETER

GRILL BOX TAP  
DWOGBST

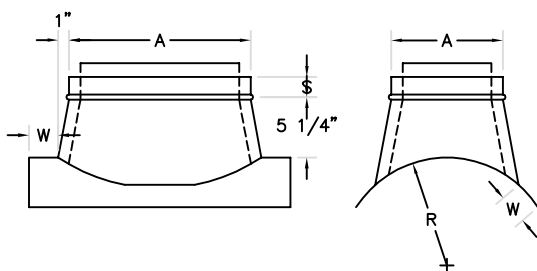


DIMENSIONAL DATA:

- C MUST BE LESS THAN 2A
- R= 1/2 DIAMETER



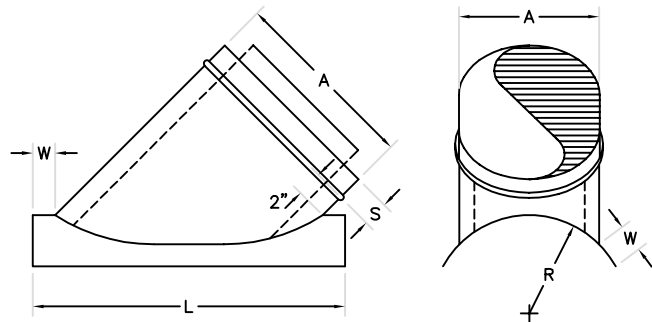
CONICAL SADDLE TAP  
DWOCSST



DIMENSIONAL DATA:

- S=2"
- W=2"
- R=1/2 DIAMETER

LATERAL SADDLE TAP  
DWOLST

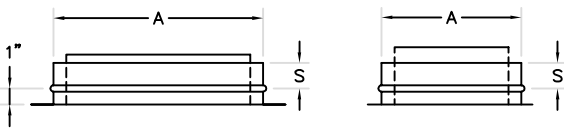


DIMENSIONAL DATA:

- S=2"
- L=(Bx1.414)+2W
- R=1/2 DIAMETER

# FLAT OVAL FITTING STANDARDS SADDLE TAPS ON FLAT

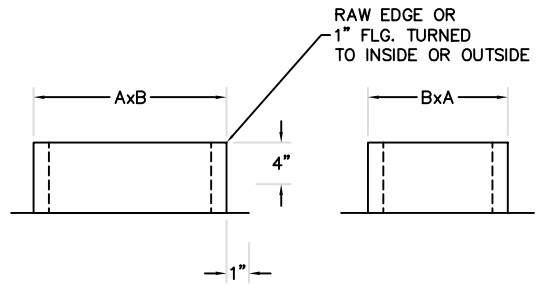
## STRAIGHT SADDLE TAP DWOTST ON FLAT



DIMENSIONAL DATA:

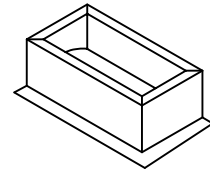
- S=2"
- W=2 1/2"

## GRILL BOX TAP DWOGBST

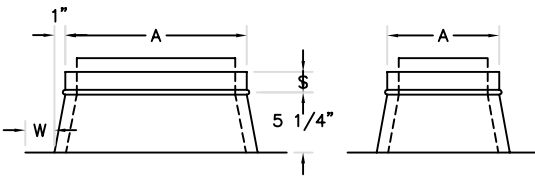


DIMENSIONAL DATA:

- C MUST BE LESS THAN 2A



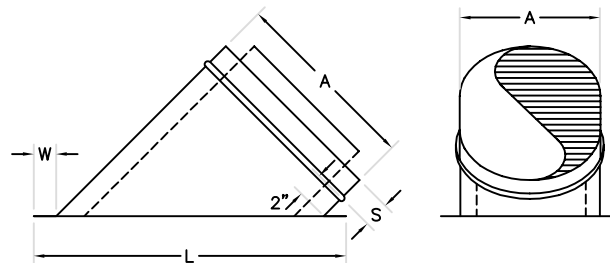
## CONICAL SADDLE TAP DWOCST



DIMENSIONAL DATA:

- S=2"
- W=2 1/2"

## LATERAL SADDLE TAP DWOLST

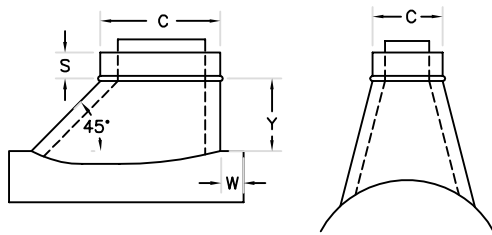


DIMENSIONAL DATA:

- S=2"
- L=(Bx1.414)+2W

# FITTING STANDARDS MISC. COMBINATION TAPS

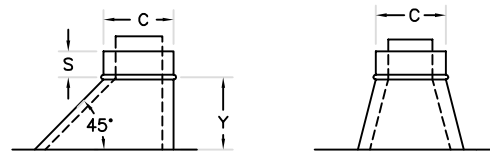
## COMBINATION SADDLE DWOCMBST



### DIMENSIONAL DATA:

- S=2"
- $V=(C+6)+2$
- C= 3-16    Y=6"
- C= 17-24    Y=9"
- C= 25-UP    Y=12"

## COMBINATION SADDLE DWOCMBST ON FLAT



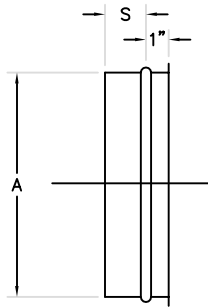
### DIMENSIONAL DATA:

- S=2"
- $V=(C+6)+2$
- C= 3-16    Y=6"
- C= 17-24    Y=9"
- C= 25-UP    Y=12"

# FITTING STANDARDS

## MISC. FITTINGS

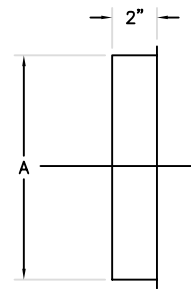
INSIDE PLUG  
DWEF



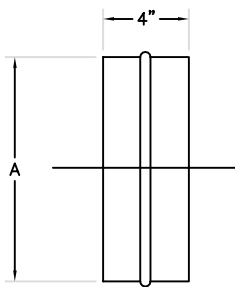
DIMENSIONAL DATA:

- S=2"

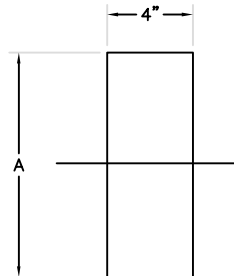
OUTSIDE CAP  
DWEF

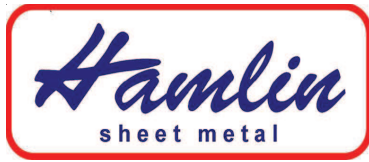


PIPE COUPLING  
DWS1  
(INSIDE COUPLING)



FITTING COUPLING  
DWS2  
(OUTSIDE COUPLING)





# OVAL DOUBLE WALL FITTINGS

## LEGEND

OAR - ANGLE RING	OR - REDUCER
OBM - BELLMOUTH	OS - COUPLING
OCMB - COMBINATION	OSET - OFFSET
OT2 - CROSS	ODSA - SPUN INSULATION END
OC - CONICAL	OT - TEE
OTST - SADDLE TAP	OL - LATERAL
OE - ELBOW	OEC - END CAP
OF - FLAT SADDLE	

## DIMENSIONING CODE

A	- Size of main inlet major axis, a-minor axis
B	- Size of main outlet, if reducing major axis, b-minor axis
C,D	- Size of take off taps major axis, c, d-minor axis
P	- Angle Between Cross Tap Centerlines
R	- Radius
S	- Length of Male End of Fittings
Z	- Offset Height
EB	- Easy bend for vertical elbows
HB	- Hard bend for horizontal elbows

## ORDERING

Specify type of fittings and list the following dimensions:

ELBOWS	- A, a, B, b
TEES	- A, a, B, b, C, c, D, d
LATERALS	- A, a, B, b, C, c, D, d
CROSSES	- A, a, B, b, C, c, D, d
ACCESSORIES	- As Noted

The drawings shown are illustrative of the types fabricated.

All fittings, unless noted, are fabricated as a male part on each end for slip-joint assembly with spiral pipe.

Van Stone angle ring, Solid welded flange, Accuflange or Ovalmate flanges are available on special order.