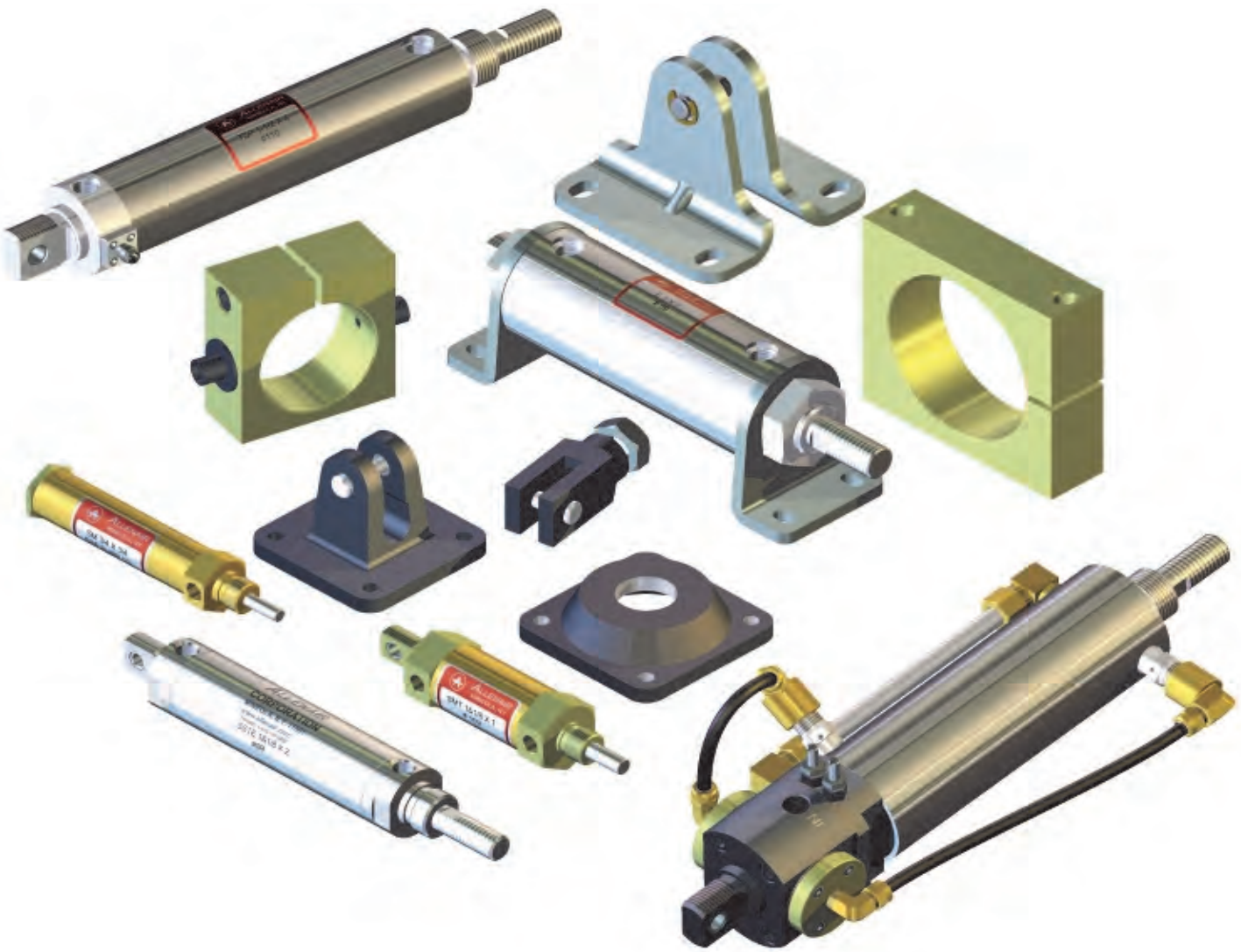
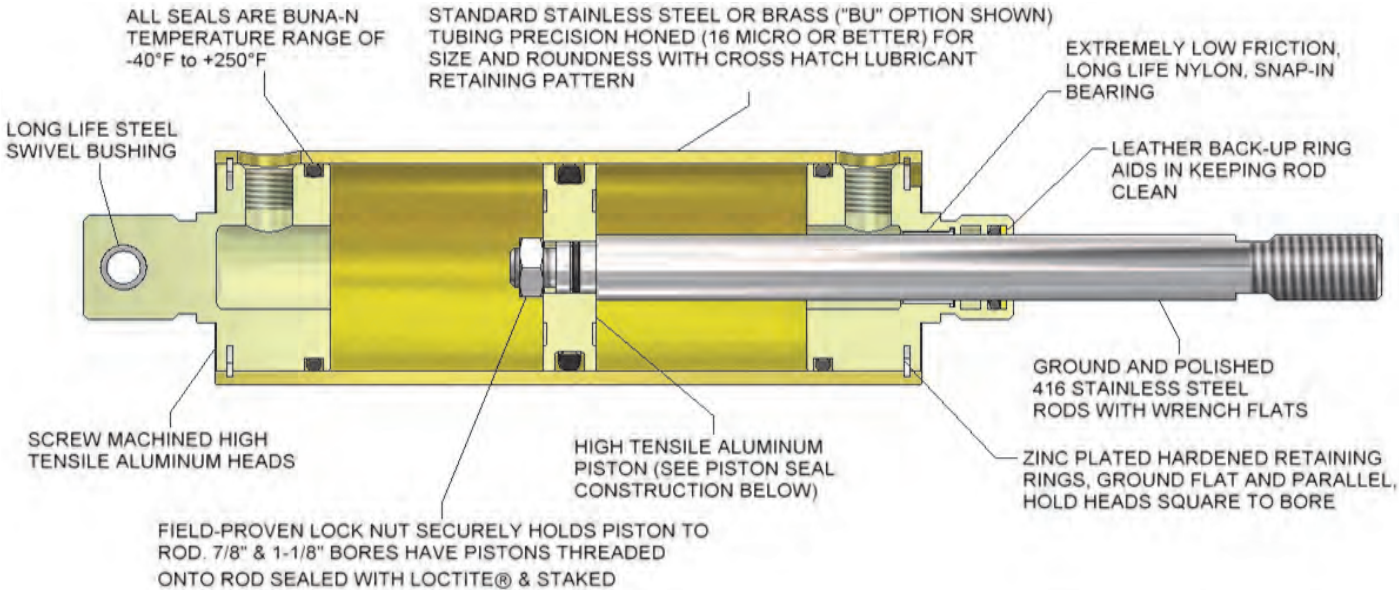
CYLINDERS



ALLENAIR Cylinders may be used in place of other Manufactures cylinders.
Please consult factory for “Drop In” or “Cross Over information”

DESIGN FEATURES & MATERIALS

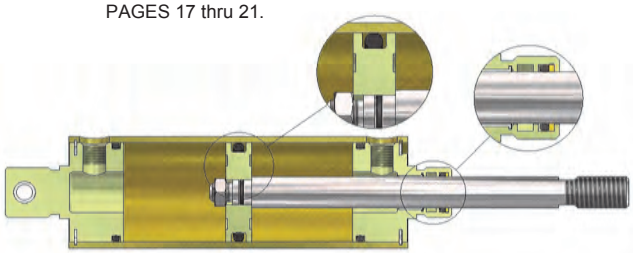


STANDARD STROKE LENGTHS: WHOLE-INCH INCREMENTS FROM 1" THROUGH 20" AND 1/2", 1-1/2", 2-1/2" & 3-1/2" SPECIAL STROKES AVAILABLE FROM 1/8" TO 130".

BASIC CONSTRUCTION (DOUBLE ACTING)

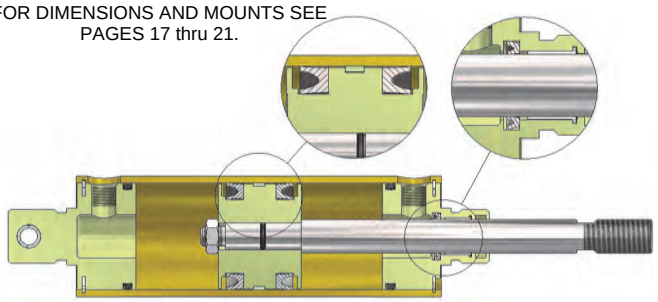
FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

TYPE A SINGLE ENDED : All Type "A" Cylinders, with the exception of the 4" bore, are constructed using **"O"- Ring Seals.** The 4" bore uses "O"- Ring Rod Seals and "U"- Cup Piston seals. These all-purpose units are used for most pneumatic applications. Optional Double Rod Packings are recommended for heavy-duty and hydraulic applications, not available on 7/8" & 1-1/8" Bores.
Pressure Rating: 150 P.S.I. Pneumatic, 350 P.S.I. Hydraulic.
Breakaway: Approximately 5 to 8 P.S.I.
Bore Sizes Available: 7/8", 1-1/8", 1-1/2", 2", 2-1/2", 3 & 4".



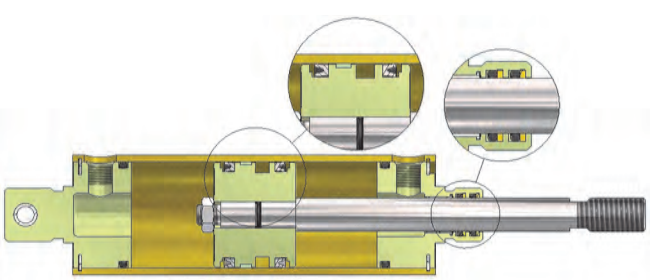
FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

TYPE C SINGLE ENDED : Type "C" Cylinders are constructed using low friction **"U"- Cup Seals** and include a wear strip on the piston with the exception of the 4" bore (it has no wear strip). These Cylinders are primarily used for low pressure applications and where low minimum breakaway is required.
Pressure Rating: 150 P.S.I. Pneumatic only.
Breakaway: Approximately 2 to 3 P.S.I.
Bore Sizes Available: 7/8", 1-1/8", 1-1/2", 2", 2-1/2" & 3".



FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

TYPE E SINGLE ENDED : Type "E" Cylinders are constructed using **Block-Vee Seals** and include double rod seals in the front head except on the 7/8" & 1-1/8" Bores. A heavy-duty wear strip (bearing) on the piston minimizes friction and piston seal wear, and side load conditions prevents metal-to-metal contact. These Cylinders are generally used on low pressure hydraulics and where side load conditions are present.
Pressure Rating: 200 P.S.I. Pneumatic, 500 P.S.I. Hydraulic.
Breakaway: Approximately 10 to 15 P.S.I.
Bore Sizes Available: 7/8", 1-1/8", 1-1/2", 2", 2-1/2", 3", 4" & 5*.
*** 5" BORE AVAILABLE-Consult Factory for Details.**



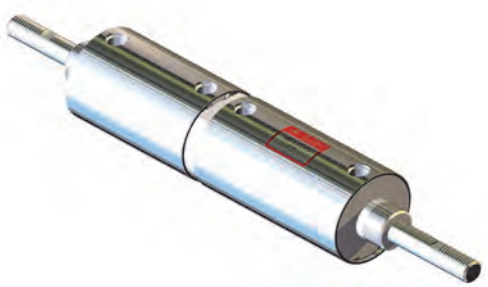
STANDARD VARIATIONS OF TYPES A, C & E

The basic construction of these cylinder variations are identical to Types “A”, “C” or “E”, except where noted.

DOUBLE ENDED: TYPES AD, CD & ED Cylinders are constructed with a common single rod, which protrudes from both ends. As one end retracts, the other extends.
Bore Sizes Available: 7/8”, 1-1/8”, 1-1/2”, 2”, 2-1/2”, 3” & 4”.
Maximum Stroke Available: 65”.
NOTE: Due to piston construction, 3/32” of stroke is lost on Type AD 1-1/2”, 2”, 2-1/2” and 3” bore sizes.

FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

BACK-TO-BACK: TYPES ABB, CBB & EBB Units consist of two separate single ended Cylinders, joined together by a common rear head. Their strokes can be either identical or different. By fastening one rod end to a fixed object, these units can perform as 3 and 4 position Cylinders.
Bore Sizes Available: 7/8”, 1-1/8”, 1-1/2”, 2”, 2-1/2”, 3” & 4”.
NOTE: Options must be indicated for each stroke.

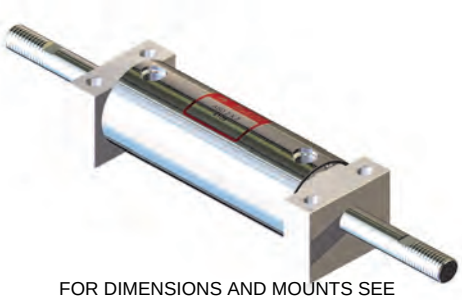


FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

INTEGRAL REAR SWIVEL: TYPES AN, CN & EN Cylinders are constructed with a female clevis end, including clevis pin.
Bore Sizes Available: 7/8”, 1-1/8”, 1-1/2”, 2”, 2-1/2”, 3” & 4”.

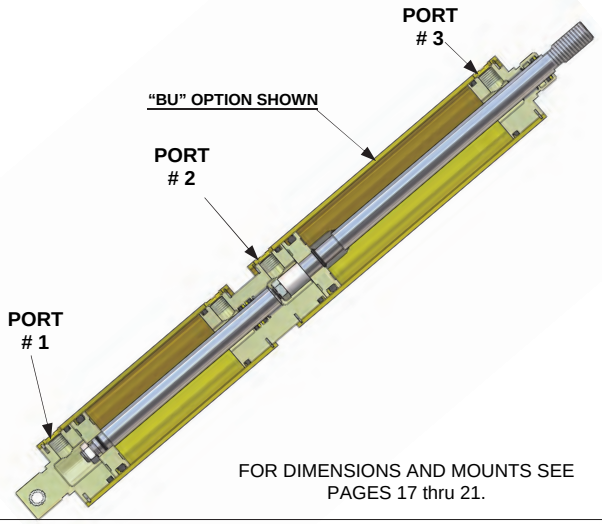
FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

SQUARE HEAD:
TYPES AS, CS & ES
TYPES ASD, CSD & ESD
Units incorporate the use of square heads, thus eliminating the need for separate Foot Mounts.
Bore Sizes Available: 7/8”, 1-1/8”, 1-1/2” & 2”.
NOTE: Due to piston construction, 3/32” of stroke is lost on Type ASD 1-1/2” and 2” bore sizes.



FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

THREE POSITION:
TYPES: AP, CP & EP SINGLE ENDED
TYPES: APD, CPD & EPD DOUBLE ENDED
Cylinders feature two separate piston rod assemblies which provide three definite and positive positions. Any combination of first stroke and total stroke is available. **Both rods fully retracted are first position.**
Port #1 Extends rod first stroke to second position.
Port #2 Extends rod full stroke to third position.
Port #3 Retracts both rods to first position.
When ordering, second stroke must be specified as total stroke, as second Cylinder rod moves through both strokes. For example, if first stroke required is 4" and second stroke is 2", order should read: **AP- 3 X 4 X 6.** 6" being the total stroke (4+2).
Bore Sizes Available: 1-1/2", 2", 2-1/2", 3" & 4".
NOTE: Options must be indicated for each stroke.

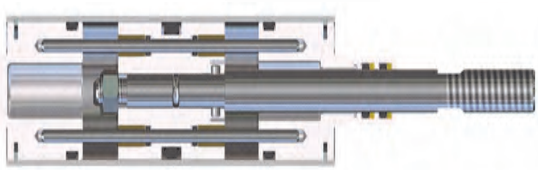


FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

TANDEM:
TYPE: ET SINGLE ENDED
TYPE: ETD DOUBLE ENDED
The basic construction of these Cylinders is identical to Type "E" and feature two Cylinders in tandem having two pistons mounted on one common rod. Pneumatic operation with hydraulic control can be obtained by operating the rear Cylinder pneumatically and filling the front Cylinder with oil and piping its ports in series using a flow control valve. The output force of a single Cylinder can be almost doubled using a Tandem Cylinder and piping both rear ports together and both front ports together, which will apply the working pressure to both Cylinders at the same time. This is particularly useful when space limitations preclude the use of large bore Cylinders, and the force required is greater than that supplied by smaller bore units.
Bore Sizes Available: 1-1/2", 2", 2-1/2", 3" & 4".
Maximum Stroke Available:
Type "ET" : 60".
Type "ETD": 40".

FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

NON-ROTATING:
TYPE: AR, ARD
The Piston Rod Assembly of conventional double acting air and hydraulic cylinder will rotate a few degrees with each operation of the cylinder. Where this is objectionable and where the piston rod cannot be guided externally, A NON-ROTATING CYLINDER should be used.
ALLENAIR TYPES "**AR**" and "**ARD**" CYLINDERS are built with two (2) guide rods extending between cylinder heads and thru piston guide rod bearings. This prevents piston rod rotation completely. Service life of these cylinders is excellent, in no way different from our conventional construction. All other construction features are the same as our cylinders.
BORE SIZES: 2", 3" & 4" STROKES: Same as for other Allenair Cylinders up to 20" Maximum.



FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

ORDERING PROCEDURE

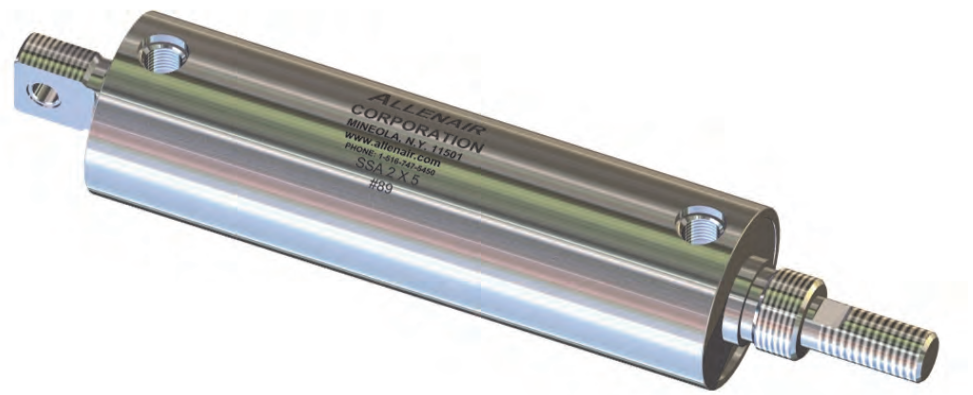
TYPE	BORE SIZE	STROKE	OPTIONS
SEE PAGES 9, 10, 11 & 12	SPECIFY	SPECIFY	SEE PAGES 13 thru 16

EXAMPLE: **E 3 x 4 BC BU HTP IB OS RG**

BC..... Cushion Both Ends
BU..... Brass Tube
HTP..... High Temperature (Viton) Seals
IB ..... AB Accessory Pin installed in both ends
OS ..... Oversized Rod
RG ..... Outboard Rod Guide installed

NOTE: When ordering back-to-back and three position cylinders, options must be specified for each cylinder. All mounts are ordered separately. See pages 20 & 21.

ALL STAINLESS STEEL CYLINDERS



DESIGNED TO SOLVE CORROSION & ENVIRONMENTAL PROBLEMS
BY MANUFACTURING ALL METAL PARTS FROM 300 SERIES STAINLESS STEEL
TYPES : SSA, SSE, SSAN, SSEN, SSAP, SSEP, SSABB, SSEBB, SSET SINGLE ENDED
TYPES : SSAD, SSED, SSAPD, SSEPD, SSETD DOUBLE ENDED

ALL Cylinder parts are manufactured from 300 series stainless steel. Otherwise, the dimensions are identical in construction to our standard Types "A", "AD", "E" & "ED" Cylinders. Units are particularly recommended for use in the food and dairy industries and in highly corrosive atmospheres, as found in the marine and chemical field.

Maximum Stroke Available: 130"
Bore Sizes Available: 7/8", 1-1/8", 1-1/2", 2", 2-1/2", 3" & 4".
For Stainless Steel Cylinders, Mounts and Nuts Use Prefix **SS**.
FOR DIMENSIONS AND MOUNTS SEE PAGES 17 thru 21.

REQUEST A COPY OF CATALOG NUMBER SS200 COVERING OUR COMPLETE LINE OF 300 SERIES STAINLESS STEEL CYLINDERS.

CUSHIONS
SPECIFY:
FC FRONT CUSHION
RC REAR CUSHION
BC CUSHION BOTH ENDS

SPRING RETURN
SPECIFY:
SRF INDICATES SPRING IN FRONT END (AIR PUSH)
ROD NORMALLY RETRACTED

SRR INDICATES SPRING IN REAR END (AIR PULL)
ROD NORMALLY EXTENDED

HTP HIGH TEMPERATURE SEALS

FAIL SAFE • SPRING RETURN - SINGLE ACTING
Available in all models except Types "ET" & "ETD". MAXIMUM STROKE AVAILABLE IS 10". Cylinders can be supplied with the rods either normally retracted or extended by the spring. On SRF models, Front Head Rod Seals are normally not provided, but can be if requested.

SPECIFY:

SRF INDICATES SPRING IN FRONT END (AIR PUSH) ROD NORMALLY RETRACTED
SRR INDICATES SPRING IN REAR END (AIR PULL) ROD NORMALLY EXTENDED
SRFW INDICATES OPTIONAL STRONGER SPRING (For heavy-duty applications only.)
SRRW INDICATES OPTIONAL STRONGER SPRING (For heavy-duty applications only.)

APPROXIMATE SPRING FORCES IN POUNDS

Bore Sizes	Piston Rod	AT REST		FULL STROKE	
		Std. Spring	Stronger Spring	Std. Spring	Stronger Spring
7/8"	STD	9	X	24	X
1-1/8"	STD	17	29	40	58
	*OS	19	30	45	60
1-1/2"	STD	17	30	41	58
	*OS	18	52	45	100
2"	STD	17	52	42	100
	*OS	21	77	47	125
2-1/2"	STD	25	77	55	125
	*OS	30	X	75	X
3"	STD	23	77	50	125
	*OS	31	X	73	X
4"	STD	57	X	123	X
	*OS	75	X	175	X

***NOTE Applies to SRF and SRFW models only**

LAST 1/2 INCH OF STROKE IS EFFECTIVELY CUSHIONED TO REDUCE SHOCK & NOISE.
FULL REVERSE FLOW PROVIDED. CYLINDER LENGTH NOT AFFECTED.

CUSHIONS

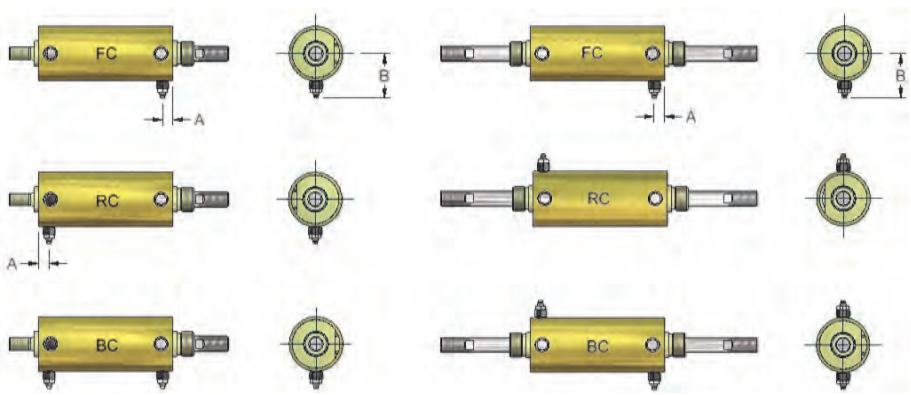
SPECIFY:
FC (FRONT CUSHION)
RC (REAR CUSHION)
BC (CUSHION BOTH ENDS)

DIM.	BORE SIZES				
	1-1/2"	2"	2-1/2"	3"	4"
A	1/2	7/16	1/2	1/2	13/16
B	1-3/4	2"	2-5/16	2-5/8	3-1/16

NOTES:
1) Dim. B cushion screw shown fully closed.
2) Available on Spring Return Cylinders Opposite the spring side only.
3) Non-Standard Cushion Adjusting Screw locations available at slight additional cost.

CUSHION ADJUSTING SCREW LOCATIONS

SINGLE ENDED **DOUBLE ENDED**



AVAILABILITY AND TYPES

CUSHION LOCATION	CYLINDER TYPES	BORE SIZES									
		7/8"	1-1/8"	1-1/8" OS	1-1/2"	1-1/2" OS	2"	2" OS	2-1/2"	2-1/2" OS	3" thru 4"-OS
FRONT	ALL TYPES (Except those below)	NA	FX	NA	ADJ	FX	ADJ	FX	ADJ	ADJ	ADJ
	TYPES AN, CN, & EN ONLY	NA	FX	NA	FX	NA	ADJ	FX	ADJ	ADJ	ADJ
REAR	ALL TYPES (Except those below)	NA	FX	FX	ADJ	FX	ADJ	ADJ	ADJ	ADJ	ADJ
	TYPES AN, CN, & EN ONLY	NA	FX	FX	FX	NA	ADJ	ADJ	ADJ	ADJ	ADJ
	TYPE CD ONLY	NA	FX	NA	ADJ	NA	NA	NA	NA	NA	ADJ

NOTES:
1) Fixed Cushions are INTERNALLY CONSTRUCTED.
2) Tandem Cylinders - Cushions installed on Rear Cylinder Only.
3) Three Position Cylinders - Rear Cushion of Front Cylinder not available.

ADJ = ADJUSTABLE CUSHION AVAILABLE
FX = FIXED CUSHION ONLY AVAILABLE
NA = CUSHION NOT AVAILABLE

CYLINDER OPTIONS

DOUBLE ROD PACKING
SPECIFY: **DRP** Two sets of rod seals in "A" Type cylinders - except 7/8" and 1-1/8" bore sizes.

FAIL SAFE
SPECIFY: **FS** Spring installed in front of cylinder to retract rod should there be an air failure.
Dimensions are those of a Single Acting Cylinder.

HIGH TEMPERATURE SEALS
SPECIFY: **HTP** Fluorocarbon compound (Viton) seals, temperature range of +10°F to +350°F .

HOLLOW RODS
SPECIFY: **M** Hole thru rod available up to 12" stroke.

ROD DIA.	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"
HOLE SIZE	3/16"	1/4"	5/16"	7/16"	9/16"	5/8"

NO TANG
SPECIFY: **NT** Cylinders available without Tang section (covered by dimension "E" minus "N" Page 17).

OVERSIZED ROD
SPECIFY: **OS** Larger diameter rod for column loading. Not available on Type ETD 1-1/2" bore.

BORE SIZE	7/8"	1-1/8"	1-1/2"	2"	2-1/2"	3"	4"
ROD DIA.	N/A	1/2"	5/8"	3/4"	1"	1"	1-1/4"

LOW FRICTION CYLINDER
SPECIFY: **LF** Available in "A" Type cylinders only. For extremely low friction at medium to high pressure.

MAGNETIC PISTON
SPECIFY: **RM** To signal Hall Effect or Reed switches. Available on Types "A", "E" & "SM" 1-1/8" cylinders.

ROD WIPER
SPECIFY: **WR** Teflon wiper replaces the standard leather back-up ring in Types "A" "E" cylinders only.

POLYURETHANE BUMPERS
SPECIFY: **PUBF**
PUBR
PUBB

For use on high speed Cylinder applications to reduce shock and noise where standard cushions cannot be used. Made of 1/2" thick Polyurethane and press fit between the head and piston

PUBF BUMPER INSTALLED IN FRONT • PUBR BUMPER INSTALLED IN REAR
PUBB BUMPER INSTALLED BOTH ENDS
Available on all Cylinders and Bore sizes except Spring Return Cylinders and Cylinders having Accessory Pins, Bleeder Valves or Cushions. Adds 1/2" of length for each bumper.

ACCESSORIES: For accessories used with Allenair Cylinders see pages 49 - 52.

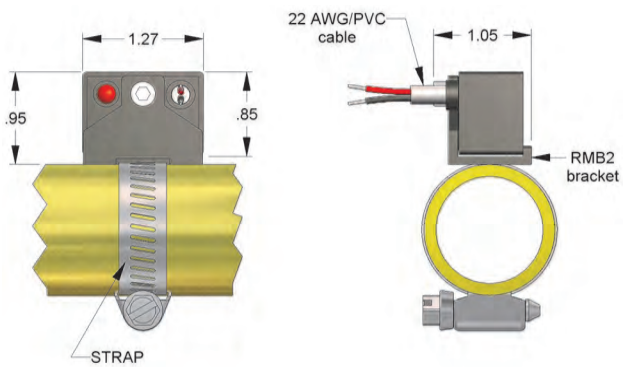
HALL EFFECT SWITCHES (CSA "NRTL/C" Listed):

ALLENAIR Hall Effect switches are designed to be used with our type "A" & "E" 1-1/8" thru 4" bore cylinders. The cylinders must be ordered with the "RM" option (adds 1" O.A.L. to "A" type). All switches have an LED indicator light, nine (9) foot leads, a mounting bracket P/N RMB2 and an operating temperature range of - 22°F to +176°F.

TECHNICAL DATA						
MODEL	FUNCTION	SWITCHING VOLTAGE	SWITCHING CURRENT	SWITCHING POWER	SWITCHING SPEED	VOLTAGE DROP
HO1	NORMALLY OPEN PNP Output	6-24/DC	1 Amp max.	24 watts max.	1.5 µs operate 0.5 µs release	0.5 Volts
HO2	NORMALLY OPEN NPN Output	6-24/DC	1 Amp max.	24 watts max.	1.5 µs operate 0.5 µs release	0.5 Volts
HO3	NORMALLY OPEN TRIAC output	12-24-50/60	0.6 Amp max. 5 Amp inrush	15 watts max.	1.5 µs operate 0.5 µs release	1 Volt
HO4	NORMALLY OPEN TRIAC output	120-50/60	0.6 Amp max. 5 Amp inrush	72 watts max.	1.5 µs operate 0.5 µs release	1 Volt

NOTES:
1) **PNP** output is Sourcing
2) **NPN** output is Sinking
All models require a mounting strap purchased as a separate item based on the cylinder bore size.

CYLINDER BORE SIZE	STRAP PART NO.
1-1/8" & 1-1/2"	RMS1
2" & 2-1/2"	RMS2
3"	RMS3
4"	RMS4



REED SWITCHES (CSA "NRTL/C" Listed)

ALLENAIR Reed switches are designed to be used with our "A" & "E" type 1-1/8" thru 4" bore cylinders. Cylinders must be ordered with the "RM" option (adds 1" O.A.L. to "A" type). All switches have nine (9) foot hook up cable. Operating temperature range is -22°F to +176°F. Models R02, R04 and R05 have an LED indicator light. Models R02, R03, R04 and R05 have MOV surge suppression

TECHNICAL DATA						
MODEL	FUNCTION	SWITCHING VOLTAGE	SWITCHING CURRENT	SWITCHING POWER	SWITCHING SPEED	VOLTAGE DROP
RO1	NORMALLY OPEN SPST	0-240/DC 0-240-50/60	1 Amp max.	30 watts max.	0.6 ms operate 0.05 ms release	0 Volts
RO2	NORMALLY OPEN SPST	5-240/DC 5-240-50/60	1 Amp max. .005 Amp min.	30 watts max.	0.6 ms operate 0.05 ms release	3 Volts
RO3	NORMALLY OPEN TRIAC output	10-240-50/60	4 Amp max. 50 Amp Inrush	100 watts max.	0.6 ms operate 0.05 ms release	1 Volt
RO4	NORMALLY OPEN TRIAC output	24-240-50/60	4 Amp max. 50 Amp Inrush 0.005 Amp min.	100 watts max.	0.6 ms operate 0.05 ms release	1 Volt
RO5	NORMALLY OPEN SPST	5-120/DC 5-120-50/60	0.5 Amp max. 0.005 Amp min.	10 watts max.	0.5 ms operate 0.1 ms release	3.5 Volts

Models R01 - R04 include mounting bracket P/N RMB2.
Order mounting strap based on cylinder bore size as shown below.

CYLINDER BORE SIZE	1-1/8" & 1-1/2"	2" & 2-1/2"	3"	4"
STRAP PART NO.	RMS1	RMS2	RMS3	RMS4

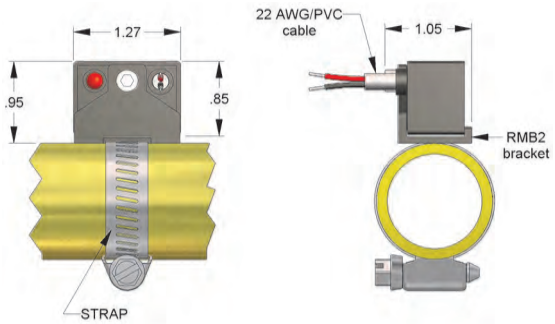
Model R05 is supplied with a universal mounting bracket and strap covering all bore sizes (1-1/8" thru 4") P/N RMB1

STANDARD OPTIONS FOR ALL BORE SIZES EXCEPT WHERE NOTED, AVAILABLE AT EXTRA COST.

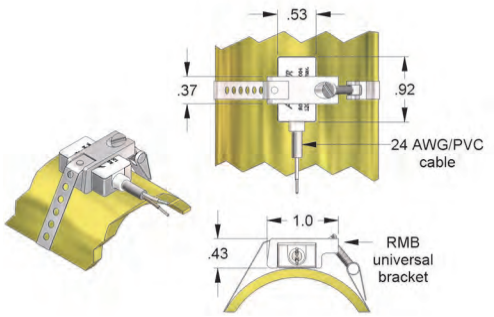
CYLINDER OPTIONS

REED SWITCHES

Models R01 - R04



Model R05



MODIFICATIONS

RODS:

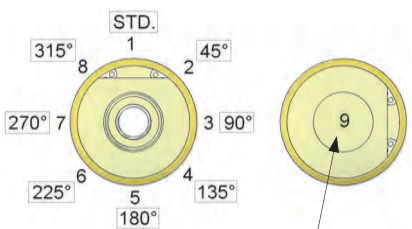
	SPECIFY
Non-Standard Rod Extensions (“H” Dim.)	Length Required
Non-Standard Rod Threads (“CC” Dim.)	Size Required
Non-Standard Rod Thread Length (“J” Dim.)	Length Required
Female Threads In Rod	Size & Depth Required
No Threads on Rod	No Threads
Complete Special Rod End	Print Required
Non-Standard Wrench Flats	Location & Size
Special Rod Material	Material Required

HEADS:

- Non-Standard Port Location (s)
- Non-Standard Cushion Screw Location (s)
- Extra Ports
- Non-Standard Hole In Tang

NOTE: The Port Sizes shown in the dimension drawings are the largest available.

STANDARD & OPTIONAL PORT LOCATIONS



ROD SIDE REAR

“NT” SHOWN

STANDARD & OPTIONAL PORT LOCATIONS

To determine port and option locations, we will always look at the front of the cylinder (Rod Side) with the tail section in the vertical plane, Square head units will be sitting on the base of the heads, and No Tail units will have the ports on the top at position #1. (Position #1 is standard) Position #9 is in the center of the rear head.

There are eight possible positions for ports and options, all others are special and will be treated as special units.

EXAMPLE: A 1-1/2 X 6 **BC3 FP7**

BC3 = Cushions Front & Rear at Position 3
FP7 = Front Port at Position 7
Rear Port remains at standard position.

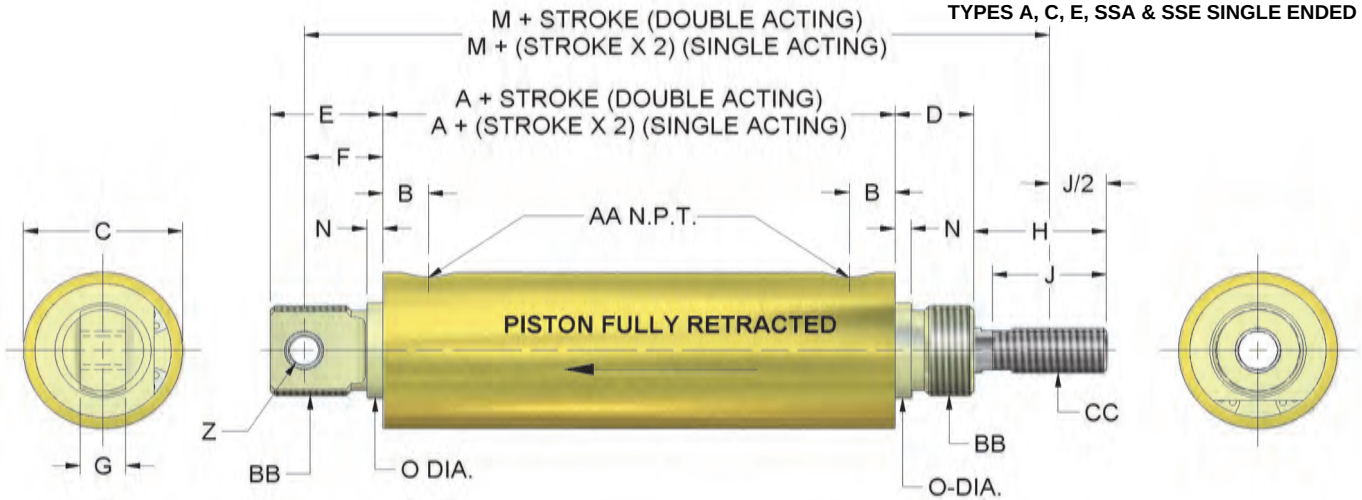
LISTED BELOW ARE SPECIAL CODES WE USE WHENEVER A SPECIAL CYLINDER IS ORDERED.
NOT ALL CODES ARE LISTED - ONLY THE MOST COMMON

CODE	DESCRIPTION	CODE	DESCRIPTION	CODE	DESCRIPTION
B	Sp. “H” Dimension	G	No Rod Threads	L	303 Stainless Steel Rod
BU	Brass Tube	GB	No Rod Threads Both Ends	LF	Low Friction Cylinder
C	Sp. “J” Dimension	GF	No Rod Threads Front End	M	Hollow Rod
CB	Sp. “H” & “J” Dimensions	GR	No Rod Threads Rear End	NT	NoTang
CH	Sp. “H” & “J” For Cyl_Check	H	Sp. Per Customers Drawing	Q	Stainless Steel Snap Ring
CS	Sp. Per Customers Specs.	HTP	Hi_Temp. Packings	RB	Bleeder Valve Both Ends
D	Sp. “CC” Dimension	IB	“AB” Pin Both Ends	RF	Bleeder Valve Front End
DRP	Double Rod Packing	IF	“AB” Pin Front End	RM	Magnet On Piston
EPF	Extra port in Front	IR	“AB” Pin Rear End	RR	Bleeder Valve Rear End
EPR	Extra port in Rear	J	Special Tail	RG	Sp. “H” For Rod Guide
EPB	Extra port Both Ends	J2	Flange Mount Tail	U	Steel Tube
F	Non_standard Port Location	K	Female Thread In Rod	W	Stronger Spring
FS	Fail Safe W/Spring In Front	KR	Sp. “H” & “J” For K & KR Kits	WR	Rod Wiper

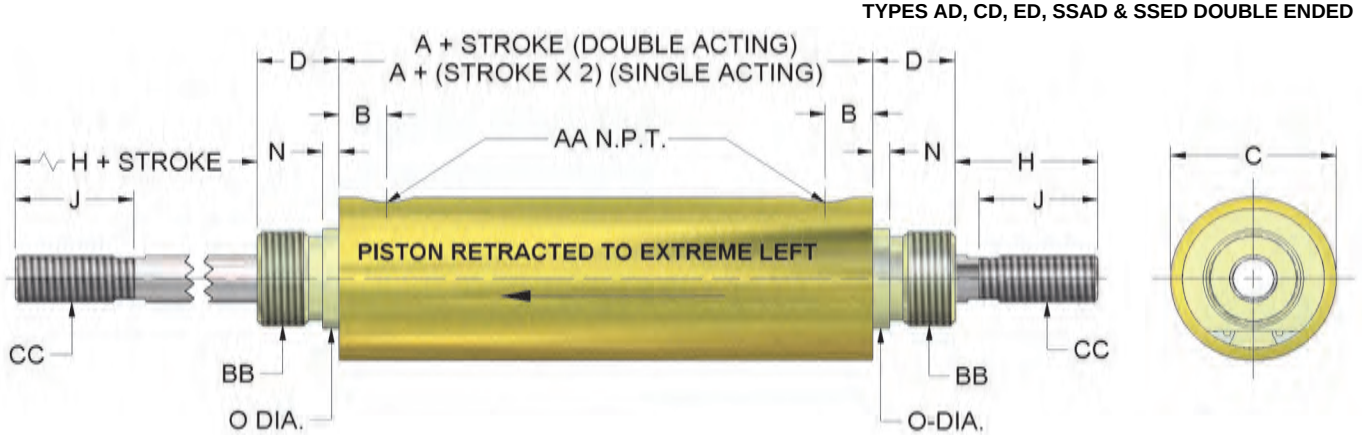
MATERIALS: Special seal compounds are available for a wide range of fluid media and environments. Tubes, Heads, Pistons and Rods can be supplied plated, hardcoated or in other materials. Please consult the factory for special requirements, stating quantity required.

SPECIAL DESIGNS: Many times Allenair is able to change the standard configuration of our Cylinders to meet Customer’s special requirements. A print from the Customer is needed so we can evaluate and properly quote such specials.
PLEASE CONSULT FACTORY ON THE ABOVE SPECIALS STATING QUANTITIES REQUIRED.

TYPES A, C, E, SSA & SSE SINGLE ENDED



TYPES AD, CD, ED, SSAD & SSED DOUBLE ENDED



CYL. BORE SIZES	A		B	C	D		E	F	G	H	J	M				N	O		Z
	TYPE A	TYPE C & E			Std	OS (Front Only)						TYPE A		TYPE C & E			Std	OS (Front only)	
												Std	OS	Std	OS				
7/8"	2-1/16	3-1/16	3/8	♦1-1/16	5/8	X	1"	11/16	3/8	1"	7/8	3-15/16	X	4-15/16	X	1/8	3/4	X	1/4
1-1/8"	2-1/16	3-1/16	3/8	♦1-5/16	5/8	5/8	1"	11/16	3/8	1"**	7/8**	3-15/16	4-1/8	4-15/16	5-1/8	1/8	3/4***	7/8	1/4
1-1/2"	2-5/8	3-5/8	1/2	♦1-11/16	7/8	7/8	1-1/4	7/8	1/2	1-7/16	1-1/4	5-3/16	5-3/16	6-3/16	6-3/16	3/16	1-1/16	1-1/16	5/16
2"	2-5/8	3-5/8	1/2	♦2-3/16	7/8	7/8	1-1/4	7/8	1/2	1-7/16	1-1/4	5-3/16	5-3/16	6-3/16	6-3/16	3/16	1-1/16	1-3/8	5/16
2-1/2"	2-7/8	3-7/8	9/16	♦2-11/16	1"	1"	2"	1-3/8	5/8	1-11/16	1-1/2	6-3/16	6-3/16	7-3/16	7-3/16	1/4	1-3/8	1-1/2	7/16
3"	2-7/8	3-7/8	9/16	♦3-3/16	1"	1"	2"	1-3/8	5/8	1-11/16	1-1/2	6-3/16	6-3/16	7-3/16	7-3/16	1/4	1-3/8	1-1/2	7/16
4"	*4-7/8	*4-7/8	13/16	4-3/8	1-1/8	1-7/8	2-3/16	1-7/16	3/4	2-1/4	1-7/8	9-1/4	10"	9-1/4	10"	3/16	1-3/4	2-1/4	1/2
5"	4-7/8	4-7/8	13/16	5-3/8	1-7/8	N/A	1-7/8	N/A	N/A	2-1/4	1-7/8	N/A	N/A	N/A	N/A	3/16	2-1/4	N/A	N/A

CYL. BORE SIZES	AA	BB		CC		ROD DIA.	
		Std	OS (Front Only)	Std	OS	Std	OS
7/8"	1/8	3/4-16	X	3/8-16	X	3/8	X
1-1/8"	1/8	3/4-16***	7/8-14	3/8-16	1/2-13	3/8	1/2
1-1/2"	1/4	1"-14	1"-14	1/2-13	5/8-11	1/2	5/8
2"	1/4	1"-14	1-3/8-12	5/8-11	3/4-10	5/8	3/4
2-1/2"	3/8	1-3/8-12	1-1/2-12	3/4-10	1"-14	3/4	1"
3"	3/8	1-3/8-12	1-1/2-12	3/4-10	1"-14	3/4	1"
4"	1/2	1-3/4-12	2-1/4-12	1"-14	1-1/4-12	1"	1-1/4
5"	1/2	2-1/4-12	N/A	1-1/4-12	N/A	1-1/4	N/A

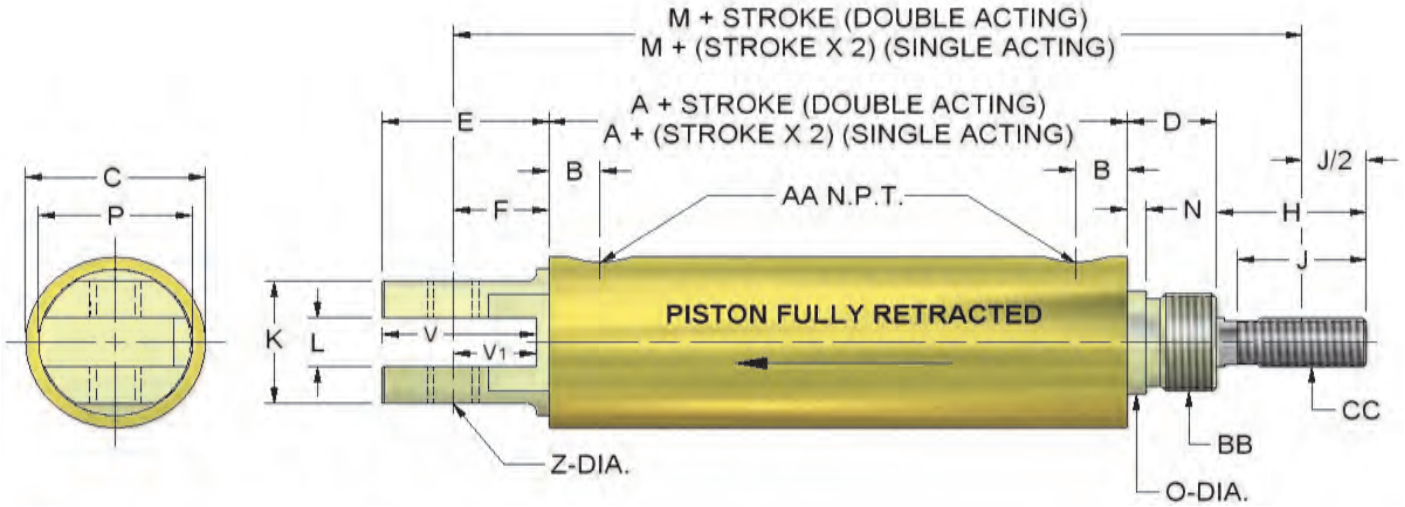
STANDARD WRENCH FLATS

ROD DIA.	W	X	Y
3/8"	5/16	15/16	5/16
1/2"	7/16	1-3/8	5/16
5/8"	1/2	1-3/8	5/16
3/4"	5/8	1-5/8	5/16
1"	7/8	2-1/8	3/8
1-1/4"	1-1/8	2-1/8	3/8

*5-3/8" on Single Ended Cylinders having Tang section, except types "AN", "CN" & "EN".
**On Oversize Models, H=1-3/8" & J=1-1/4"
***3/4"-16 both ends on Types "A" & "E"
3/4"-16 Rear and 7/8"-14 Front on Type "C". Omit dimension E when laying out Cylinder with Tang section omitted.
N dimension remains except on 7/8", 1-1/8" and 4" bores.
♦ Add 1/16" to the C dimension for "BU" option. "BU" option = Brass Tube.

CYLINDER DIMENSIONS

TYPES AN, CN, EN, SSAN & SSEN INTEGRAL REAR SWIVEL

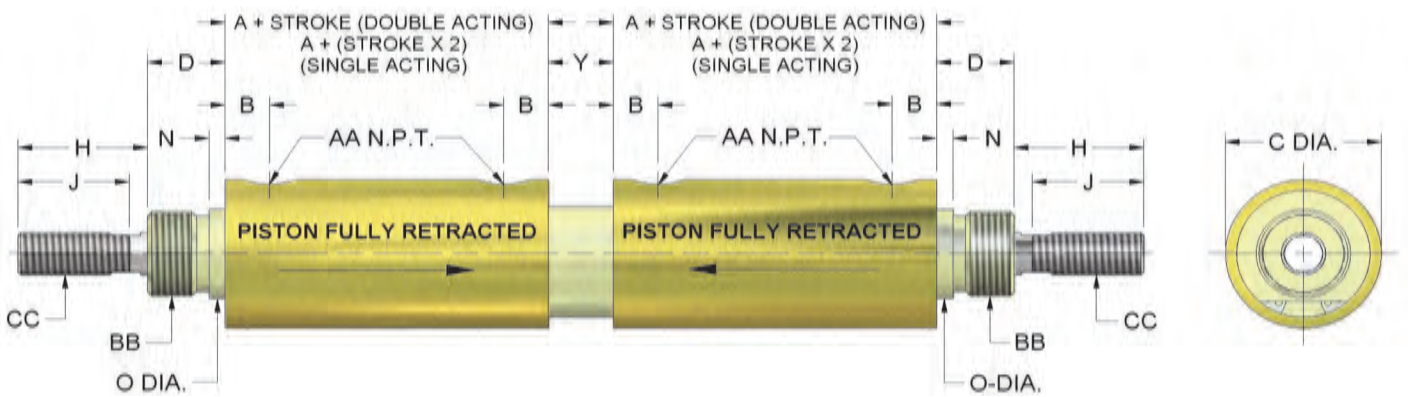


CYL. BORE SIZES	E	F	H		K	L	M				P	V	V-1	Z	CC	
			TYPE AN	TYPES CN & EN			TYP AN		TYPES CN &EN						STD	OS
							STD	OS	STD	OS						
7/8"	13/16	7/16	1"	1"	7/8	1/4	3-11/16	X	4-11/16	X	7/8	13/16	7/16	1/4	3/8-16	X
1-1/8"	1"	11/16	1"*	1"*	15/16	3/8	3-15/16	4-1/8	4-15-16	5-1/8	1-1/8	7/8	9/16	3/8	3/8-16	1/2-13
1-1/2"	1-5/8	15/16	2-7/16	1-7/16	1-1/4	1/2	6-1/4	X	6-1/4	X	1-1/2	1-1/2	13/16	3/8	5/8-11	X
2"	2-1/4	1-9/16	2-7/16	1-7/16	1-1/2	1/2	6-7/8	6-7/8	6-7/8	6-7/8	2"	1-7/8	1-3/16	1/2	5/8-11	3/4-10
2-1/2"	1-13/16	1-1/8	3-11/16	2-11/16	1-1/2	1/2	7-15/16	7-15/16	7-15/16	7-15/16	2-1/4	1-11/16	1"	1/2	3/4-10	1"-14
3"	2-5/16	1-5/8	3-11/16	2-11/16	1-1/2	1/2	8-7/16	8-7/16	8-7/16	8-7/16	2-1/4	1-3/4	1-1/16	1/2	3/4-10	1"-14
4"	3-3/8	2-3/8	2-1/4	2-1/4	2-1/4	3/4	9-11/16	10-7/16	9-11/16	10-7/16	3"	2-1/2	1-1/2	3/4	1"-14	1-1/4-12

* 1-3/8 OVERSIZED MODELS

FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 17

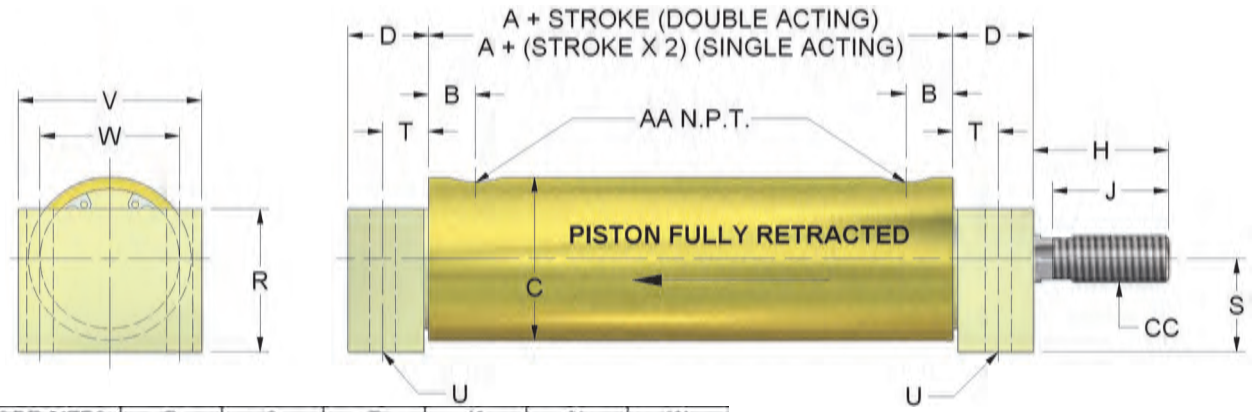
TYPES ABB, CBB, EBB, SSABB & SSEBB BACK-TO-BACK



CYL.BORE SIZES	Y
7/8"	1/2
1-1/8"	1/2
1-1/2"	1/2
2"	1/2
2-1/2"	1/2
3"	1/2
4"	1-1/8

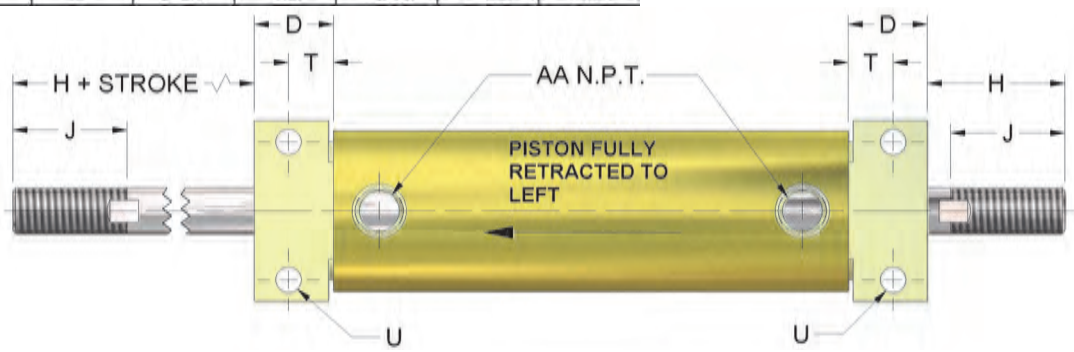
FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 17

TYPES AS, CS & ES SINGLE ENDED



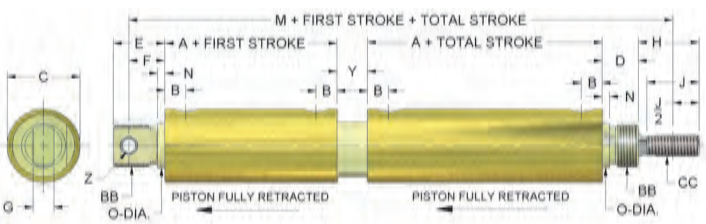
CYL.BORE SIZES	R	S	T	U	V	W
7/8"	1-1/32	3/4	11/32	7/32	1-1/2	1-1/8
1-1/8"	1-1/8	3/4	11/32	7/32	1-1/2	1-1/8
1-1/2"	1-17/32	1"	1/2	9/32	2"	1-1/2
2"	2"	1-1/4	1/2	11/32	2-1/2	1-5/8

TYPES ASD, CSD & ESD DOUBLE ENDED

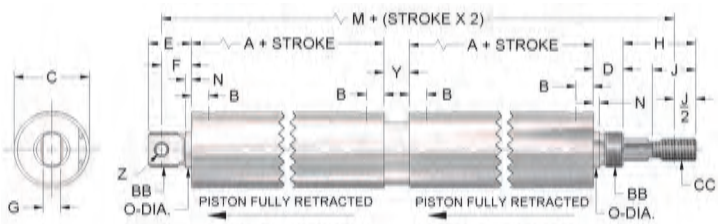


FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 17

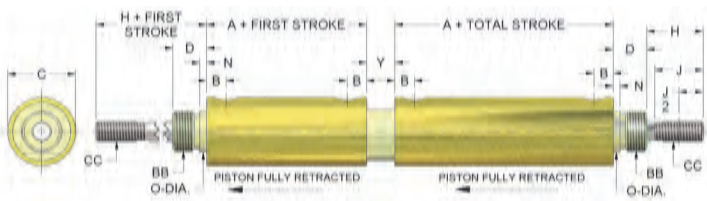
TYPES AP, CP, EP, SSAP & SSEP



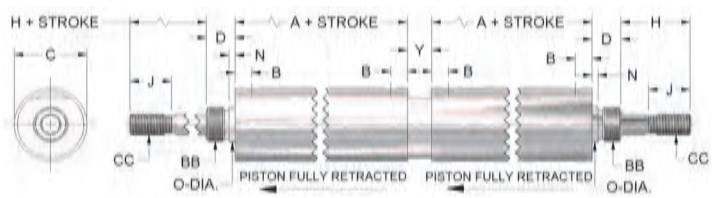
TYPES ET & SSET



TYPES APD, CPD, EPD, SSAPD & SSEPD



TYPES ETD & SSETD



CYL. BORE SIZES	M				Y
	TYPE AP		TYPES CP & EP		
	STD	OS	STD	OS	
1-1/2"	8-9/16	8-9/16	10-9/16	10-9/16	3/4
2"	8-9/16	8-9/16	10-9/16	10-9/16	3/4
2-1/2"	10-3/16	10-3/16	12-3/16	12-3/16	1-1/8
3"	10-3/16	10-3/16	12-3/16	12-3/16	1-1/8
4"	15-1/4	16"	15-1/4	16"	1-1/8

CYL. BORE SIZES	H	M		Y
		STD	OS	
1-1/2"	2-1/16	11-3/16	11-3/16	3/4
2"	2-1/16	11-3/16	11-3/16	3/4
2-1/2"	1-11/16	12-3/16	12-3/16	1-1/8
3"	1-11/16	12-3/16	12-3/16	1-1/8
4"	2-1/4	15-1/4	16"	1-1/8

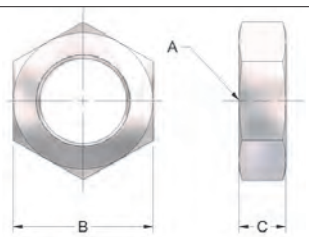
FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 17

MOUNTING BRACKETS & DIMENSIONS

CYL. BORE SIZES	FOOT MOUNT		FLANGE MOUNT		ROD CLEVIS, NUT & PIN		ROD NUT ONLY		SWIVEL BRACKET & PIN	TRUNNION (BU OPTION)	BLOCK MOUNT (BU OPTION)	MOUNTING NUTS	
	STD	OS** (Front Only)	STD	OS** (Front Only)	STD	OS	STD	OS				STD	OS** (Front Only)
7/8"	A-132	X	A-129	X	A-145	X	A-126	X	A-139	T-7/8	BM-7/8	A-114	A-114
1-1/8"	A-132 *	A-132-OS	A-129 *	A-129-OS	A-145	A-1545	A-126	A-1526	A-139	T-1	BM-1	A-114*	A-114-OS*
1-1/2"	A-232	A-232	A-229	A-229	A-1545	A-245	A-1526	A-226	A-239	T-1.5	BM-1-1/2	A-214	A-214
2"	A-232	A-232-OS	A-229	A-229-OS	A-245	A-345	A-226	A-326	A-239	T-2	BM-2	A-214	A-314
2-1/2"	A-332	A-332-OS	A-329	A-329-OS	A-345	A-445	A-326	A-426	A-339	T-2.5	X	A-314	A-314-OS
3"	A-332	A-332-OS	A-329	A-329-OS	A-345	A-445	A-326	A-426	A-339	T-3	X	A-314	A-314-OS
4"	A-432	A-432-OS	A-429	A-429-OS	A-445	A-445-OS	A-426	A-526	A-439	T-4	X	A-414	A-414-OS

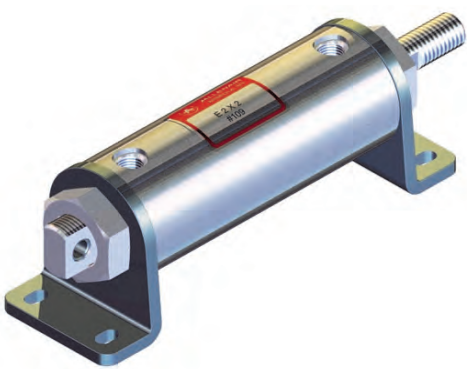
*1-1/8" bore Type "C" Cylinders require OS Mount or Mounting Nut on front and standard on rear.
**All Single Ended OS Cylinders take standard Mounts or Mounting Nuts on rear end.

MOUNTING NUTS
Mounting Nuts are supplied only with Flange or Foot Mounts and are included in the price of those Mounts.
However, they may be purchased as a separate item.

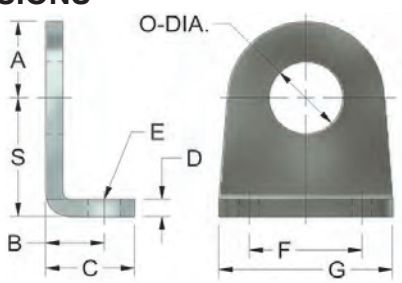


PART No.	A	B	C
A-114	3/4-16	1-1/16	3/8
A-114-OS	7/8-14	1-1/4	25/64
A-214	1"-14	1-1/2	1/2
A-314	1-3/8-12	1-3/4	5/8
A-314-OS	1-1/2-12	1-13/16	5/8
A-414	1-3/4-12	2-1/4	3/4
A-414-OS	2-1/4-12	3"	1"

FOOT MOUNT

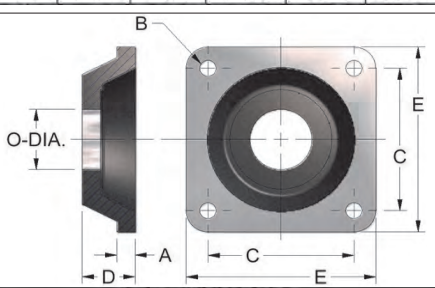


MOUNTING BRACKET DIMENSIONS



DIM.	PART NUMBERS							
	A-132		A-232		A-332		A-432	
	STD	OS	STD	OS	STD	OS	STD	OS
A	11/16	11/16	1-1/8	1-1/8	1-3/8	1-3/8	1-7/8	1-7/8
B	7/8	7/8	7/8	7/8	1-1/4	1-1/4	1-3/4	1-3/4
C	1-3/8	1-3/8	1-9/32	1-9/32	1-29/32	1-29/32	2-17/32	2-17/32
D	3/16	3/16	1/4	1/4	5/16	5/16	1/2	1/2
E	9/32	9/32	9/32	9/32	13/32	13/32	15/32	15/32
F	1-11/16	1-11/16	1-5/8	1-5/8	2-1/4	2-1/4	3-1/4	3-1/4
G	2-1/2	2-1/2	2-1/2	2-1/2	3-1/2	3-1/2	5"	5"
O	3/4	7/8	1-1/16	1-3/8	1-3/8	1-1/2	1-3/4	2-1/4
S	1-9/32	1-9/32	1-3/4	1-3/4	2-3/8	2-3/8	3-3/16	3-3/16

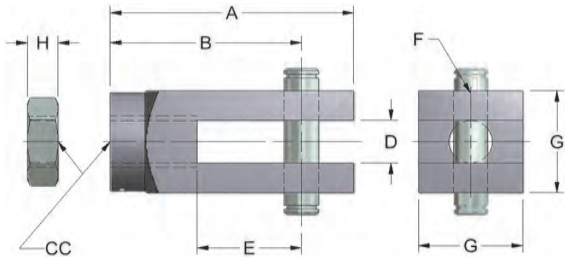
FLANGE MOUNT
Front or Rear



DIM.	PART NUMBERS							
	A-129		A-229		A-329		A-429	
	STD	OS	STD	OS	STD	OS	STD	OS
A	9/32	9/32	11/32	11/32	13/32	13/32	7/16	1 29/32
B	9/32	9/32	9/32	9/32	13/32	13/32	15/32	15/32
C	2"	2"	2-1/2	2-1/2	3-3/8	3-3/8	4"	4"
D	5/8	5/8	7/8	7/8	1"	1"	1 1/8	1-29/32
E	2-1/2	2-1/2	3-1/4	3-1/4	4-1/2	4-1/2	5-1/4	5-1/4
O	3/4	7/8	1-1/16	1-3/8	1-3/8	1-1/2	1-3/4	2-1/4

- **NT** Option suggested
- **J2** Option suggested provides Tang flush with flange mounting surface.

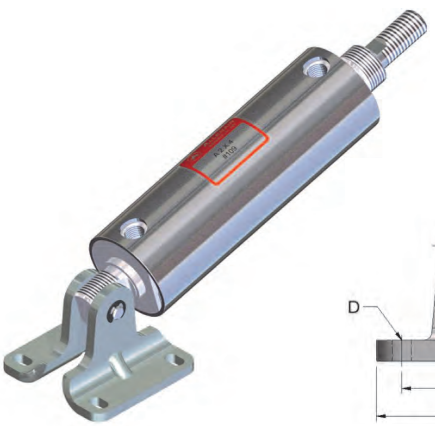
ROD CLEVIS, NUT & PIN

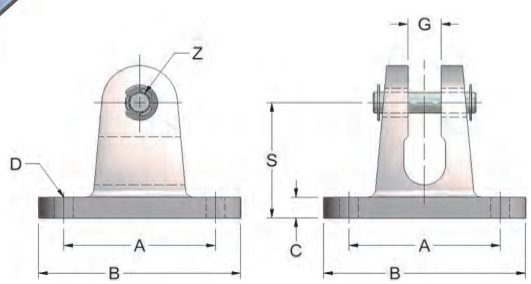


*Order A-445

DIM.	PART NUMBERS									
	A-145		A-1545		A-245		A-345		A-445	
	STD	OS	STD	OS	STD	OS	STD	*OS	STD	OS
A	1-3/4	2-1/4	2-1/4	2-1/4	2-1/4	2-3/8	2-3/8	3-3/8	3-3/8	3-1/2
B	1-3/8	1-3/4	1-3/4	1-3/4	1-3/4	1 13/16	1-13/16	2-5/8	2-5/8	2-5/8
CC	3/8-16	1/2-13	1/2-13	5/8-11	5/8-11	3/4-10	3/4-10	1"-14	1"-14	1-1/4-12
D	5/16	3/8	3/8	3/8	3/8	1/2	1/2	5/8	5/8	3/4
E	3/4	13/16	13/16	13/16	13/16	3/4	3/4	1-1/16	1-1/16	1-1/8
F	1/4	5/16	5/16	5/16	5/16	7/16	7/16	1/2	1/2	3/4
G	3/4	1"	1"	1"	1"	1-1/4	1-1/4	1-1/2	1-1/2	1-3/4
H	7/32	5/16	5/16	3/8	3/8	27/64	27/64	1/2	1/2	23/32

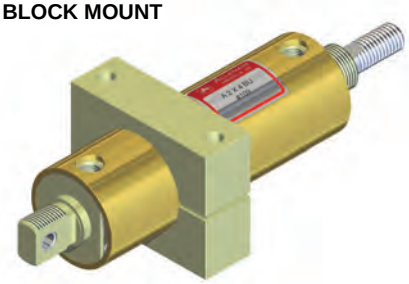
SWIVEL BRACKET & PIN



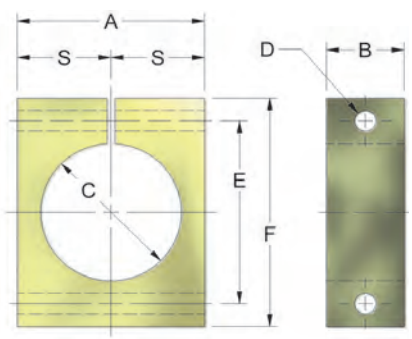


DIM.	PART NUMBERS			
	A-139	A-239	A-339	A-439
A	1-3/4	2-1/4	3"	3-3/4
B	2-1/4	3"	4"	5"
C	1/4	5/16	5/16	1/2
D	9/32	9/32	13/32	15/32
G	3/8	1/2	5/8	3/4
S	1-9/32	1-3/4	2-3/8	3-3/16
Z	1/4	5/16	7/16	1/2

BLOCK MOUNT

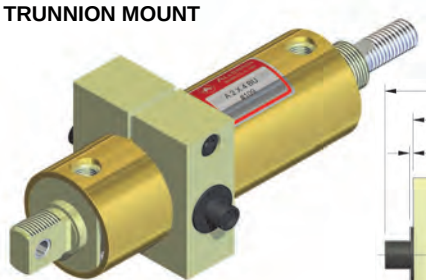


BU OPTION REQUIRED
NT OPTION SUGGESTED

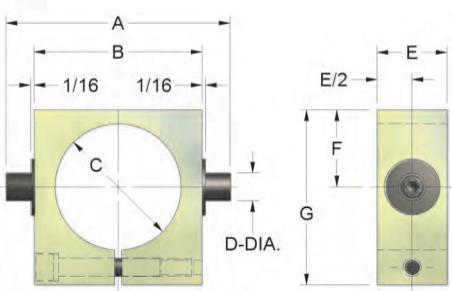


DIM.	PART NUMBERS			
	BM-7/8	BM-1 1/8	BM-1 1/2	BM-2
A	1-1/2	1-3/4	2-1/4	3"
B	1"	1"	1-1/4	1-1/4
C	1-1/8	1-3/8	1-3/4	2-1/4
D	9/32	9/32	9/32	11/32
E	1-5/8	1-7/8	2-3/8	3"
F	2-1/4	2-1/2	3"	3-3/4
S	3/4	7/8	1-1/8	1-3/8

TRUNNION MOUNT



BU OPTION REQUIRED
NT OPTION SUGGESTED



DIM.	PART NUMBERS						
	T- 7/8	T- 1	T- 1.5	T- 2	T- 2.5	T- 3	T- 4
A	3-1/2	3-1/2	4"	4"	5-1/2	5-3/4	7"
B	2-1/4	2-1/4	3"	3"	4"	4-1/4	5-1/2
C	1-1/8	1-3/8	1-3/4	2-1/4	2-3/4	3-1/4	4-3/8
D	3/8	3/8	1/2	1/2	3/4	3/4	3/4
E	3/4	3/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2
F	7/8	7/8	1-1/8	1-3/8	1-7/8	2-1/8	2-11/16
G	2"	2"	2-5/8	3-1/8	4"	4-1/2	5-3/4

SMALL BORE CYLINDERS

1/2", 3/4" & 1-1/8" BORES

DESIGN FEATURES
Cylinders are not throw away type. Seals can easily be replaced when required after a long trouble-free life. They have corrosion resistant brass tubing, precision honed (16 Micro or better) with cross hatch lubricant retaining pattern. Front and Rear Heads are precision machined and threaded into the tube.

Pressure Rating: 150 P.S.I. Pneumatic or Hydraulic.
Breakaway: Approximately 5-10 P.S.I.

BASIC CONSTRUCTION
1/2" & 3/4" BORES: Feature low friction U-Cups on the Duronze Piston, coupled with a 416 Stainless Rod. These Cylinders are available as standard in half-inch increments.
to 6" stroke.

1-1/8" BORE: Features an all-O-Ring construction. Aluminum Piston ground and polished 416 stainless steel rod. Cylinders are available as standard in half-inch increments to 6" and inch increments to 12" stroke.
Special strokes available in all bore sizes. Up to 14" maximum on 1-1/8" bore and 10" maximum on 1/2" & 3/4" bores.

TYPE SM SINGLE ENDED
An all purpose light duty pneumatic Cylinder designed for nose mounting with rear face porting. 1-1/8" Bore is also available in 300 Series Stainless Steel, TYPE SSSM. See catalog SS200.

TYPE SMD DOUBLE ENDED
Similar to above except there is a single rod which protrudes from both ends and as one end retracts the other extends. 1-1/8" Bore is also available in 300 Series Stainless Steel, TYPE SSSMD. See catalog SS200.

TYPE SMT SINGLE ENDED
Cylinder is designed for Clevis and various other universal mountings.

TYPE SP SINGLE ENDED
Similar to Type "SM" except a square front head is used, thereby eliminating the need for a separate Foot Mount.

TYPE SPD DOUBLE ENDED
Similar to Type "SMD" except square heads have been incorporated, eliminating the need for separate Foot Mounts.

ALL DIMENSIONS WILL BE FOUND ON THE FOLLOWING PAGE

STANDARD OPTIONS (FOR ALL BORE SIZES)

SPECIFY: HTP FOR HIGH TEMPERATURE SEALS
Seals are a fluorocarbon compound (viton) and have an operating temperature range of +10°F to +350°F. They will function at temperatures up to +400°F with reduced life.

SPECIFY: DRP FOR FRONT HEAD DOUBLE ROD SEALS:
A second set of rod seals are available for heavy-duty and hydraulic applications.

SPECIFY: OS FOR OVERSIZED ROD, Larger diameter rod for column loading. Available on 1-1/8" Bore only.

SPECIFY: SRF FOR SPRING RETURN, SPRING IN FRONT END (AIR PUSH)
SPECIFY: SRR FOR SPRING RETURN, SPRING IN REAR END (AIR PULL)

ORDERING PROCEDURE

TYPE	BORE SIZE	STROKE	OPTIONS (List Alphabetically)

EXAMPLE: SM 3/4 X 3 HTP SRR

APPROXIMATE SPRING FORCES IN POUNDS

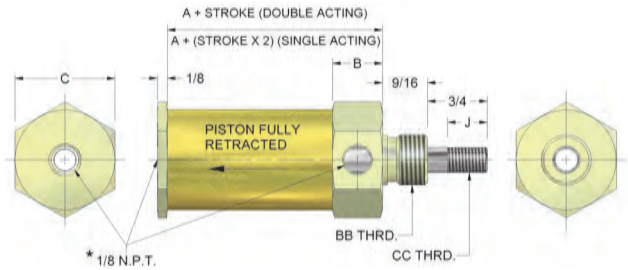
BORE SIZE	1/2"		3/4"		1-1/8"	
	SRF	SRR	SRF	SRR	SRF	SRR
AT REST	2	5	3	5	10	10
FULL STROKE	3	7	4	12	20	25

Maximum stroke available on Spring Return Cylinders is 3" on 1/2" and 3/4" Bores and 6" on 1-1/8" Bore.

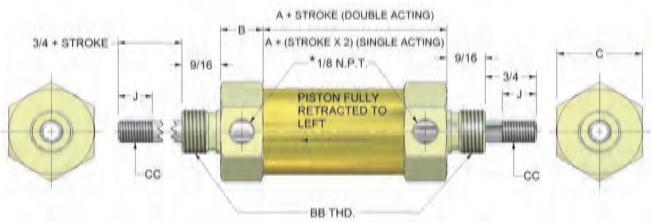
Polyurethane Bumpers see Page 14

ALL MOUNTS ORDERED SEPARATELY FROM THE FOLLOWING PAGE.

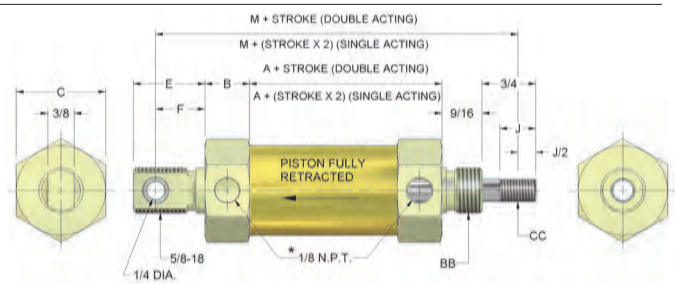
TYPE SM



TYPE SMD



TYPE SMT

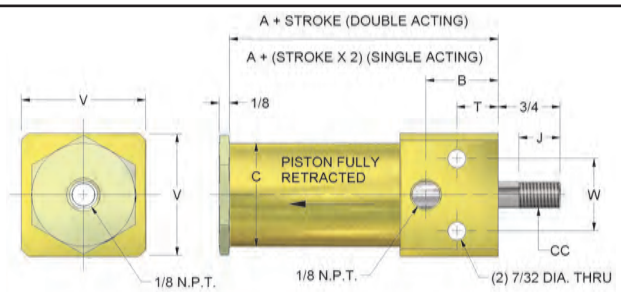


DIMENSION	BORE SIZE			
	1/2"	3/4"	1-1/8"	
			STD	OS
A	2-1/8	2-1/8	1-11/16	1-11/16
B	1/2	1/2	5/8	5/8
C	3/4	1"	1-1/4	1-1/4
E	13/16	13/16	1"	1"
F	9/16	9/16	11/16	11/16
H	3/4	3/4	3/4	15/16
J	5/8	5/8	1/2	7/8
M	4-3/16	4-3/16	4"	4"
BB	5/8-18	5/8-18	5/8-18	3/4-16
CC	1/4-20	1/4-20	5/16-24	3/8-16
ROD DIA.	1/4	1/4	5/16	3/8

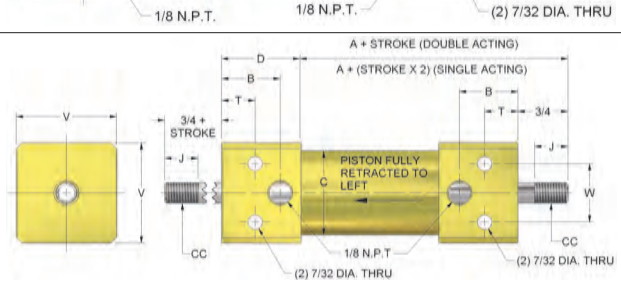
NOTE: *1/2" Bore Front Heads have a 1/16 N.P.T., supplied with a 1/8 N.P.T. adapter.

MOUNTING NUTS ARE SUPPLIED EXCEPT WHEN SWIVEL BRACKETS ARE ORDERED.

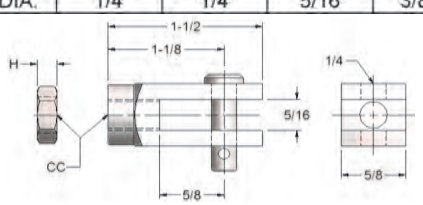
TYPE SP



TYPE SPD



DIMENSION	BORE SIZES			
	1/2"	3/4"	1-1/8"	
			STD	OS
A	2-11/16	2-11/16	2-1/4	2-1/4
B	13/16	13/16	7/8	7/8
C	11/16	15/16	1-1/4	1-1/4
D	1-1/16	1-1/16	1-3/16	1-3/16
H	3/4	3/4	3/4	15/16
J	5/8	5/8	1/2	7/8
T	3/8	3/8	1/2	1/2
V	1"	1"	1-1/2	1-1/2
W	11/16	11/16	7/8	7/8
CC	1/4-20	1/4-20	5/16-24	3/8-16
ROD DIA.	1/4	1/4	5/16	3/8

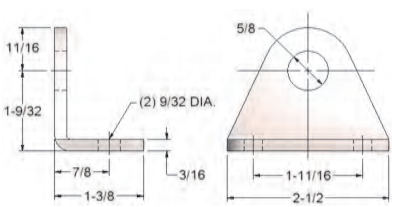


SM-45 ROD CLEVIS, NUT & PIN

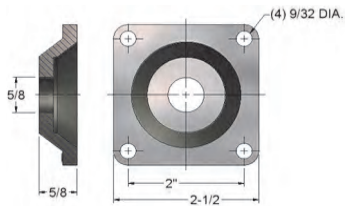
SMALL BORE CYLINDER MOUNTING BRACKETS

CYLINDER BORE SIZES	PART NUMBERS			
	FOOT MOUNT	FLANGE MOUNT	SWIVEL BRACKET	ROD CLEVIS, NUT & PIN
1/2"	SM-32	SM-29	A-139	SM-545
3/4"	SM-32	SM-29	A-139	SM-545
1-1/8"	SM-32	SM-29	A-139	SM-145, A-145 (FOR OS)

Bore Sizes	H	CC
1/2" & 3/4" (SM-545)	5/32	1/4-20
1-1/8" (SM-145)	3/16	5/16-24

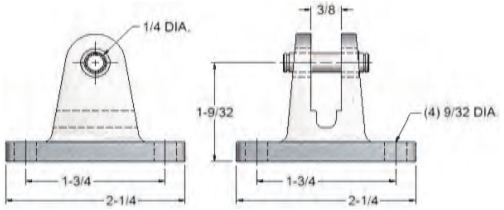


SM-32 FOOT MOUNT



SM-29 FLANGE MOUNT

When mounting on rear of Cylinder, Tang will extend beyond flange. Tang can be provided flush when required at slight extra charge.



A-139 SWIVEL BRACET

MODEL
REAR PORTED - NO TANG

Model **SSSM** (All Stainless Steel). Available in 1-1/8" (28mm) bore only.
Pressure Rating: 150 PSI, 10 Bar Pneumatic or Hydraulic. **Breakaway:** Approximately 5-8 PSI.
Strokes available: 1/8" to 14", 4 to 355mm
Standard Stroke Lengths: 1/2" through 6" in 1/2" increments and 6" through 12" in 1" increments,
(non-standard strokes 1/8" to 14"). 25, 40, 50, 80, 100, 125, 160, 200, 250, 300 and 320mm, (non- standard strokes 4 to 355mm).

OPTIONS:

ETHYLENE PROPYLENE SEALS: Ethylene Propylene Rubber compound, temperature range of -65° to +300°F (-54° to +149°C). Specify **EPS.**

FAIL SAFE: MAXIMUM STROKE IS 6" (150mm). Spring installed in a double acting cylinder to retract or extend the rod should there be an air failure. Specify **FS** to retract rod or **SRR** to extend rod. Spring force is approximately 10 pounds (44.5N) at rest and 20 pounds (89N) at full stroke.

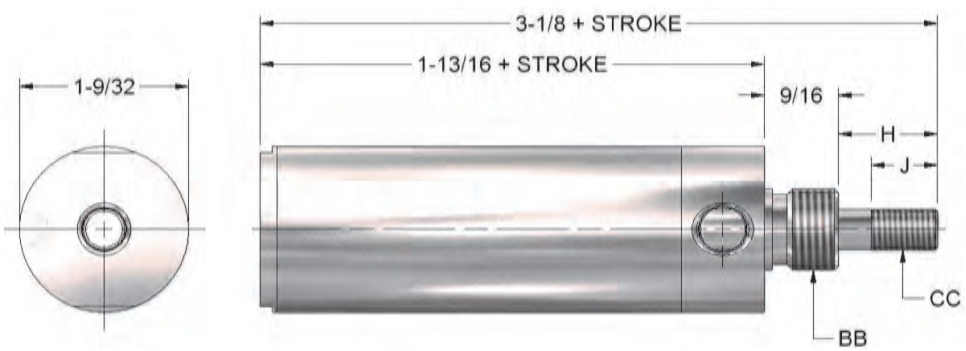
HIGH TEMPERATURE SEALS: Florocarbon compound (Viton) seals, temperature range of +10° to +350°F. Specify **HTP**.

OVERSIZED ROD: Larger diameter rod for column loading. Specify **OS**.

POLYURETHANE BUMPERS: For use on high-speed cylinder applications to reduce shock and noise. Bumpers are positioned between heads and the piston, increasing the cylinder length by 1/2" for each bumper installed. Specify **PUBF** for front, **PUBR** for rear and **PUBB** for both ends.

SINGLE ACTING - SPRING RETURN: **MAXIMUM STROKE IS 6" (150mm).** Spring installed in cylinder to retract or extend the rod. Specify **SRF** to retract rod or **SRR** to extend rod. Spring force is approximately 10 at rest and 20 at full stroke pounds.
200 P.S.I. Pneumatic, 500 P.S.I. Hydraulic.

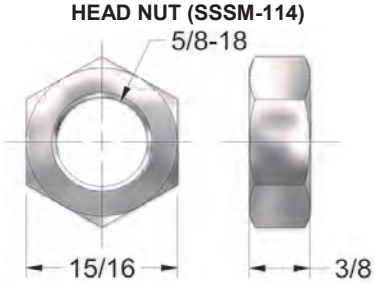
DIMENSIONS & MOUNTS



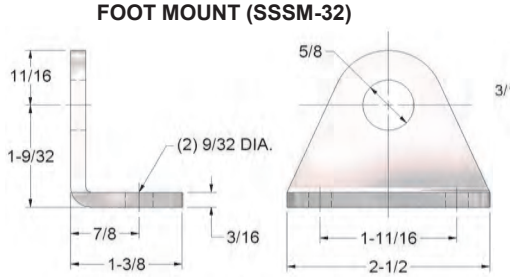
TYPE	ROD DIA.	H	J	BB	CC	PORTS	ROD NUT	HEAD NUT	FOOT MOUNT	ROD CLEVIS
SSSM	5/16	3/4	1/2	5/8-18	5/16-24	1/8 N.P.T.	SSSM-26	SSSM-114	SSSM-32	SSSM-145
SSSM-OS	3/8	15/16	7/8	3/4-16	3/8-16	1/8 N.P.T.	SSA-126	SSA-114	SSA-132	SSA-145

NOTE: For Spring Return and Fail safe options, double the stroke when calculating overall dimensions

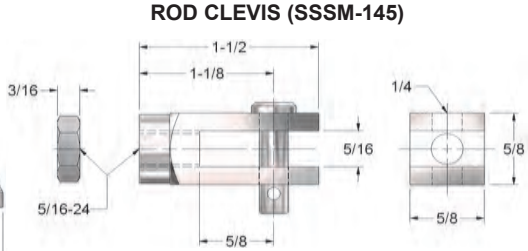
HEAD NUT (SSSM-114)



FOOT MOUNT (SSSM-32)



ROD CLEVIS (SSSM-145)



For dimensions on mounts SSA-114, SSA-126, SSA-132 and SSA-145 see pages 20 and 21.

THREADED ALL STAINLESS STEEL CYLINDERS

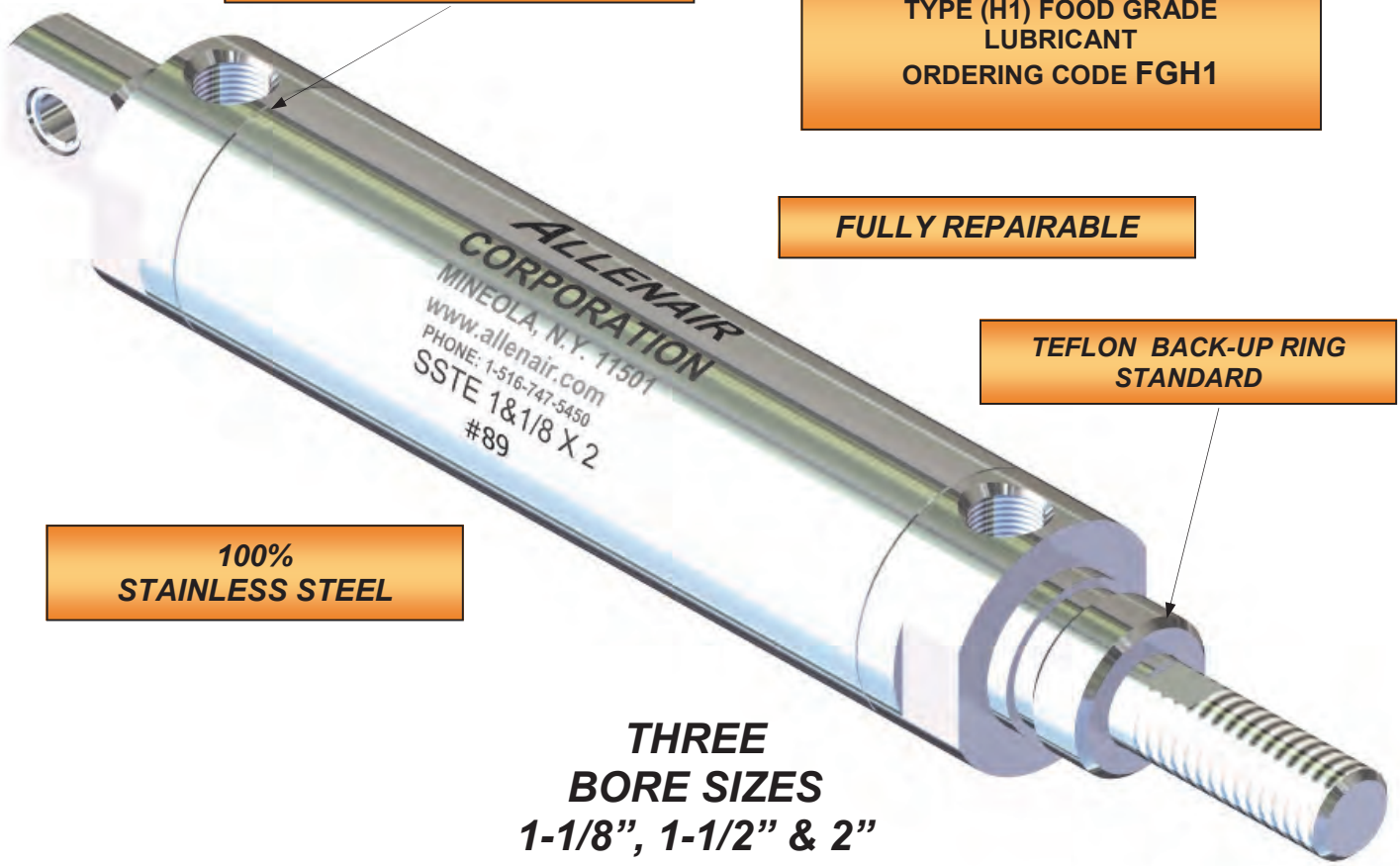
ALLENAIR'S FOOD SERVICE CYLINDERS ARE CONSTRUCTED WITH 300 SERIES STAINLESS STEEL THREADED CONSTRUCTION CYLINDERS ARE DESIGNED TO STAND UP TO REPETITIVE POWER AND CHEMICAL WASH DOWNS. THE UNIQUE NON-CREVICE FOOD SERVICE CYLINDERS FEATURE ZERO CLEARANCE THREADED CONSTRUCTION WHICH ELIMINATES CATCH POINTS FOR CONTAMINATION AND ALLOWS FOR EASY CLEANING IN YOUR WASH DOWN ENVIRONMENT

CLEAN CREVICE FREE DESIGN

OPTIONAL
TYPE (H1) FOOD GRADE LUBRICANT
ORDERING CODE FGH1

FULLY REPAIRABLE

TEFLON BACK-UP RING STANDARD



100% STAINLESS STEEL

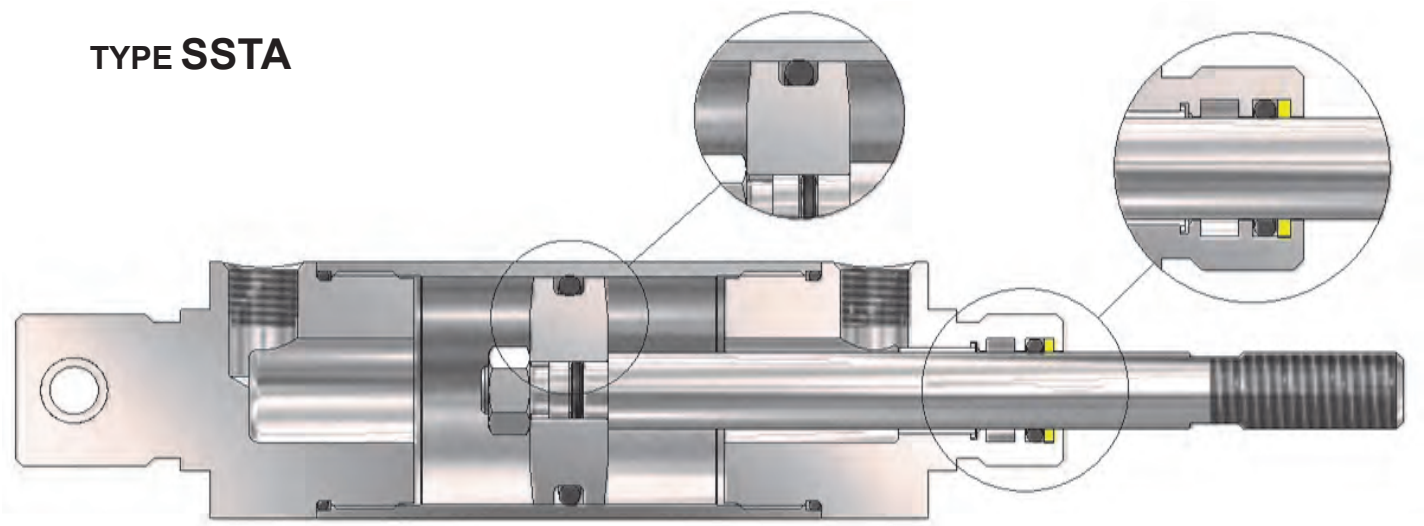
THREE BORE SIZES 1-1/8", 1-1/2" & 2"

LISTED BELOW ARE SPECIAL CODES WE USE WHENEVER A SPECIAL CYLINDER IS ORDERED.
NOT ALL CODES ARE LISTED - ONLY THE MOST COMMON

AVAILABLE OPTIONS

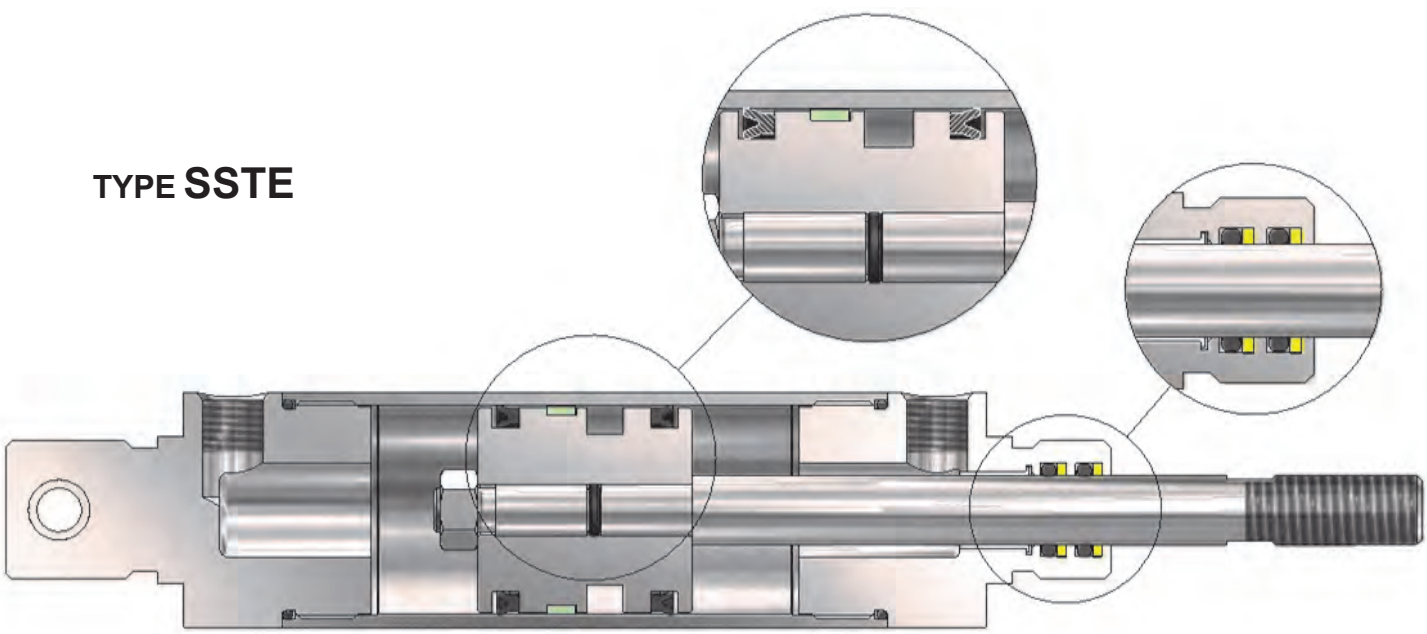
CODE	DESCRIPTION	CODE	DESCRIPTION
B	Sp. "H" Dimension	HTP	Fluorocarbon Seals
C	Sp. "J" Dimension	J2	Short Fully Threaded Tail
CB	Sp. "H" & "J" Dimension	K	Female Thread In Rod
CS	Sp. Per Customer Specs.	LF	Low Friction
D	Sp. "CC" Dimension	NT	No Tang
DRP	Double Rod Packing	OS	Over Sized Rod
BC, FC, RC	Cushions (All Cushions Fixed)	PUBB, PUBF, or PUBR	Polyurethane Bumpers
FGH1	H1 (Food Grade Lubricant)	RG	Sp. "H" For Rod Guide
FS	Fail Safe W / Spring In Front	RM	Magnet On Piston
FT	Fully Threaded Rear Tail	WR	Rod Wiper
G	No Rod Threads	SRF or SRR	Spring Return

TYPE SSTA



TYPE SSTA SINGLE ENDED : All Type "A" Cylinders are constructed using **"O"- Ring Seals.** These all-purpose units are used for most pneumatic applications. Optional Double Rod Packings are recommended for heavy-duty and hydraulic applications.
Pressure Rating: 150 P.S.I. Pneumatic, 350 P.S.I. Hydraulic.
Breakaway: Approximately 5 to 8 P.S.I.
Bore Sizes Available: 1-1/8", 1-1/2" & 2"

TYPE SSTE

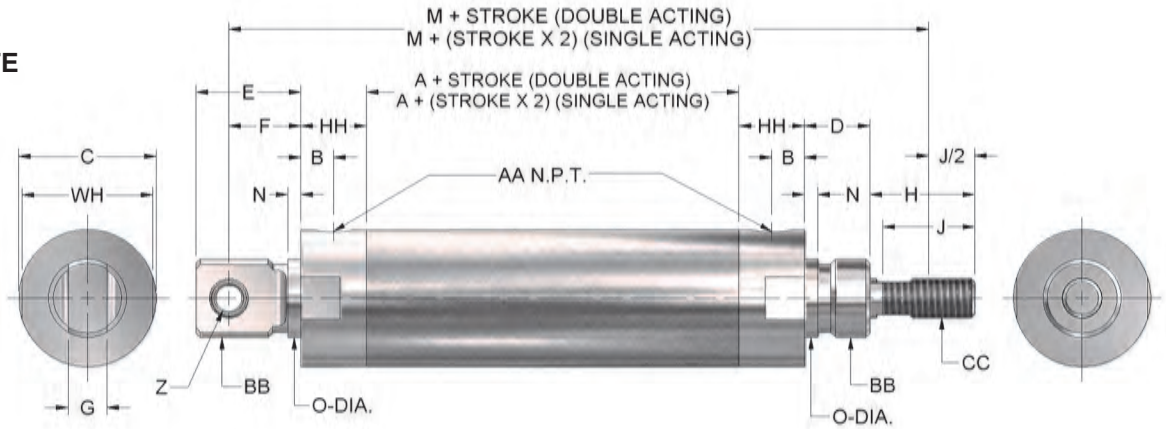


TYPE SSTE SINGLE ENDED : Type "E" Cylinders are constructed using **Block-Vee Seals** and include double rod seals in the front head except on the 1-1/8" Bore. A heavy-duty wear strip (bearing) on the piston minimizes friction, piston seal wear and side load conditions preventing metal-to-metal contact. These Cylinders are generally used on low pressure hydraulics and where side load conditions are present.
Pressure Rating: 200 P.S.I. Pneumatic, 500 P.S.I. Hydraulic.
Breakaway: Approximately 10 to 15 P.S.I.
Bore Sizes Available: 1-1/8", 1-1/2" & 2"

TYPES **SSTA** & **SSTE**

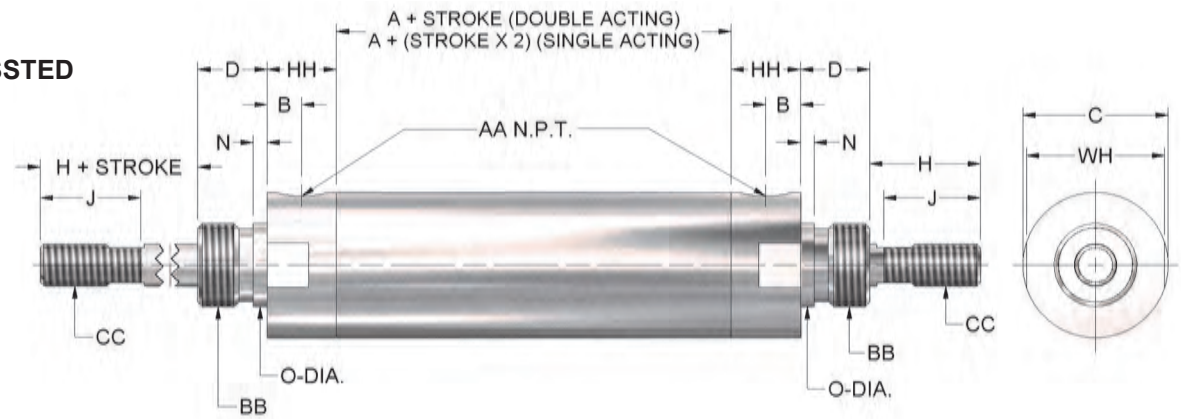
SINGLE ENDED

Add **TB** to the SUFFIX for thread on both ends. See BB♦ dimension.



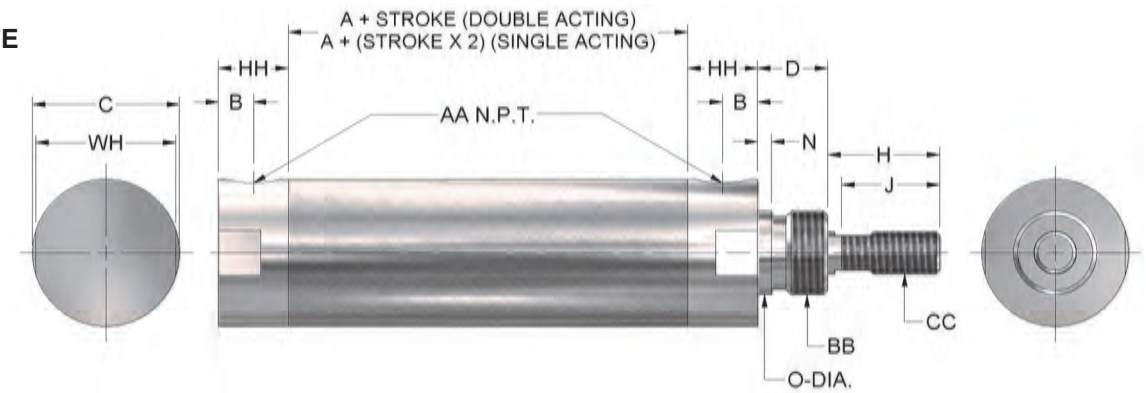
TYPES **SSTAD** & **SSTED**

DOUBLE ENDED



TYPES **SSTA** & **SSTE**

SINGLE ENDED (OPTION "NT")



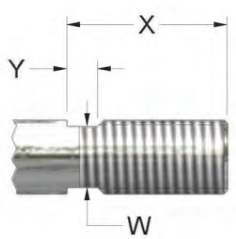
CYL. BORE SIZE	A		B	C	D		E	F	G	H	J	M				N	O		Z
	TYPE SSTA	TYPE SSTE			STD.	OS (Front Only)						TYPE SSTA Std	TYPE SSTA OS	TYPE SSTE Std	TYPE SSTE OS		STD.	OS (Front Only)	
1-1/8"	1-9/16	2-9/16	5/16	1-5/16	5/8	5/8	1"	11/16	3/8	1"*	7/8*	4-11/16	4-7/8	5-11/16	5-7/8	1/8	3/4**	7/8	1/4
1-1/2"	1-3/4	2-3/4	11/32	1-11/16	7/8	7/8	1-1/4	7/8	1/2	1-7/16	1-1/4	5-11/16	5-11/16	6-11/16	6-11/16	3/16	1-1/16	1-1/16	5/16
2"	1-3/4	2-3/4	11/32	2-3/16	7/8	7/8	1-1/4	7/8	1/2	1-7/16	1-1/4	5-11/16	5-11/16	6-11/16	6-11/16	3/16	1-1/16	1-3/8	5/16

CYL. BORE SIZE	AA	BB		CC		ROD DIA.		WH	HH
		STD.	OS (Front Only)	STD.	OS	STD.	OS		
1-1/8"	1/8	3/4-16♦	7/8-14	3/8-16	1/2-13	3/8	1/2	1-1/4	5/8
1-1/2"	1/4	1"-14♦	1"-14	1/2-13	5/8-11	1/2	5/8	1-5/8	11/16
2"	1/4	1"-14♦	1-3/8-12	5/8-11	3/4-10	5/8	3/4	2-1/8	11/16

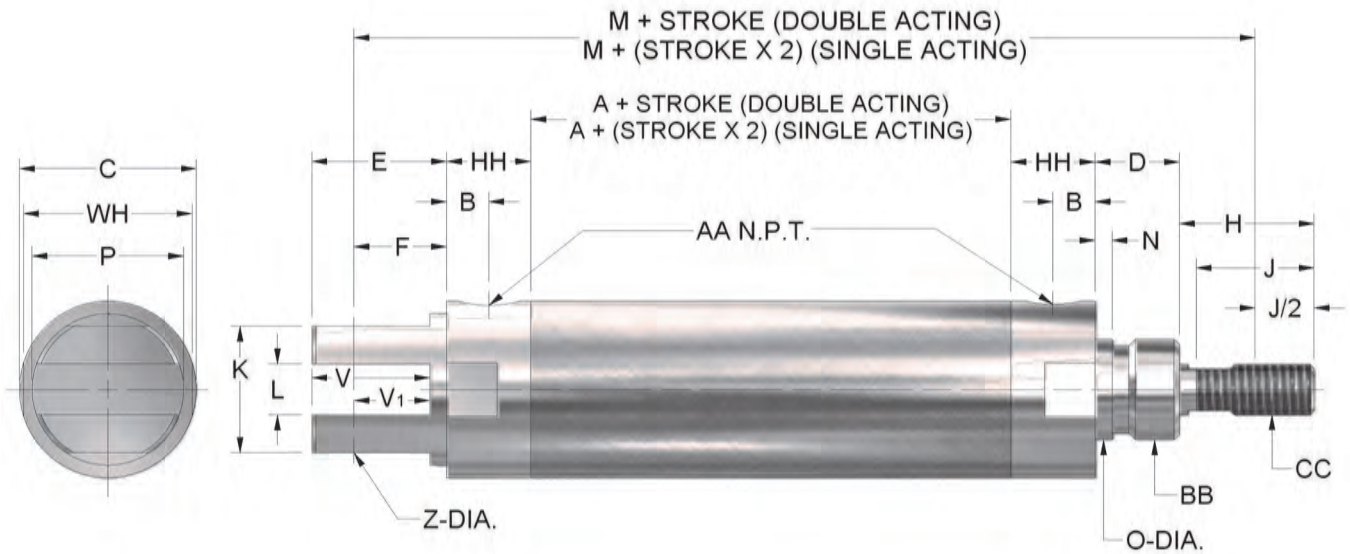
*On Oversize Models, H = 1-3/8 & J = 1-1/4.
**3/4-16 Both ends on Types "A" & "E"
Omit dimension E and N when laying out Cylinder with Tang section omitted.

STANDARD WRENCH FLATS

ROD DIA.	W	X	Y
3/8"	5/16	15/16	5/16
1/2"	7/16	1-3/8	5/16
5/8"	1/2	1-3/8	5/16
3/4"	5/8	1-5/8	5/16



TYPES **SSTAN** & **SSTEN** INTEGRAL REAR SWIVEL

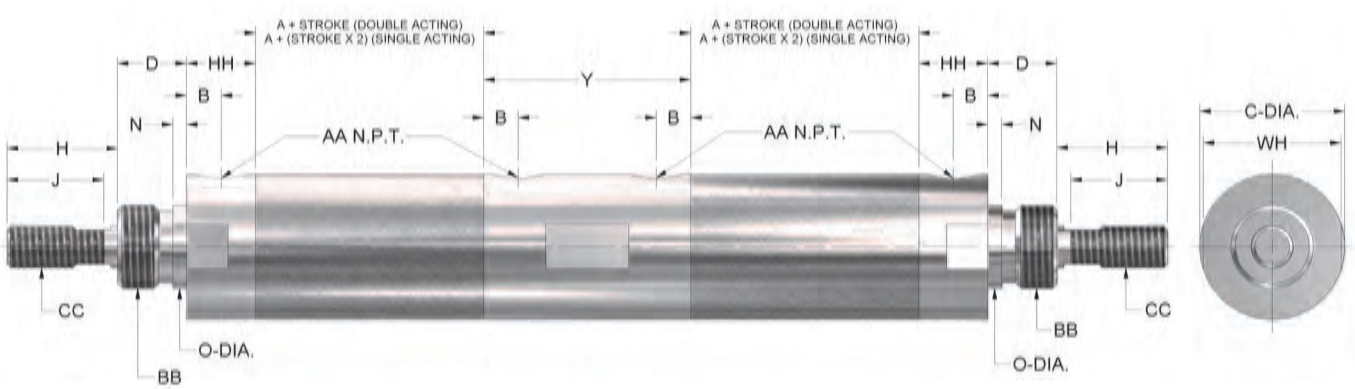


CYL. BORE SIZE	E	F	H		K	L	M				P	V	V1	Z	CC	
			TYPE SSTAN	TYPE SSTEN			TYPE SSTAN		TYPE SSTEN						STD	OS
							Std	OS	Std	OS						
1-1/8"	1"	11/16	1"*	1"*	15/16	3/8	4-11/16	4-7/8	5-11/16	5-7/8	1-1/8	7/8	9/16	3/8	3/8-16	1/2-13
1-1/2"	1-5/8	15/16	2-7/16	1-7/16	1-1/4	1/2	6-3/4	X	6-3/4	X	1-1/2	1-1/2	13/16	3/8	5/8-11	X
2"	2-1/4	1-9/16	2-7/16	1-7/16	1-1/2	1/2	7-3/8	7-3/8	7-3/8	7-3/8	2"	1-7/8	1-3/16	1/2	5/8-11	3/4-10

*1-3/8 ON OVERSIZED MODELS

FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 27.

TYPES **SSTABB** & **SSTEBB** BACK-TO-BACK



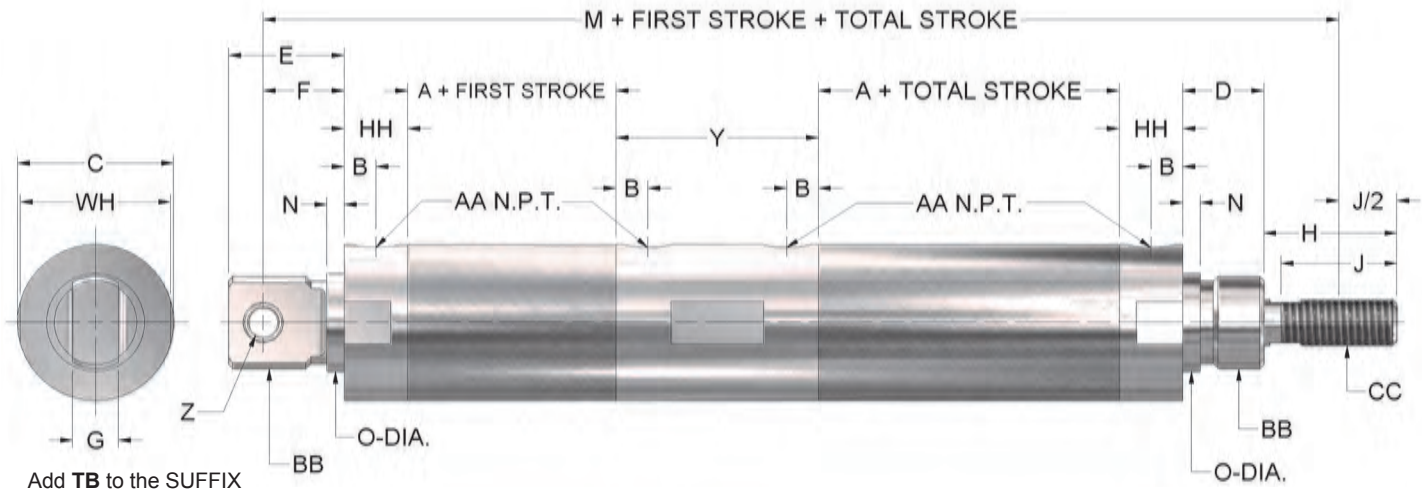
BACK-TO-BACK: TYPES SSTABB & SSTEBB Units consist of two separate single ended Cylinders, joined together by a common rear head. Their strokes can be either identical or different. By fastening one rod end to a fixed object, these units can perform as 3 and 4 position Cylinders.
Bore Sizes Available: 1-1/8", 1-1/2" & 2"
NOTE: Options must be indicated for each stroke.

CYL. BORE SIZE	Y
1-1/8"	1-7/8
1-1/2"	2-3/16
2"	2-3/16

FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 27.

TYPES **SSTAP** & **SSTEP** THREE POSITION

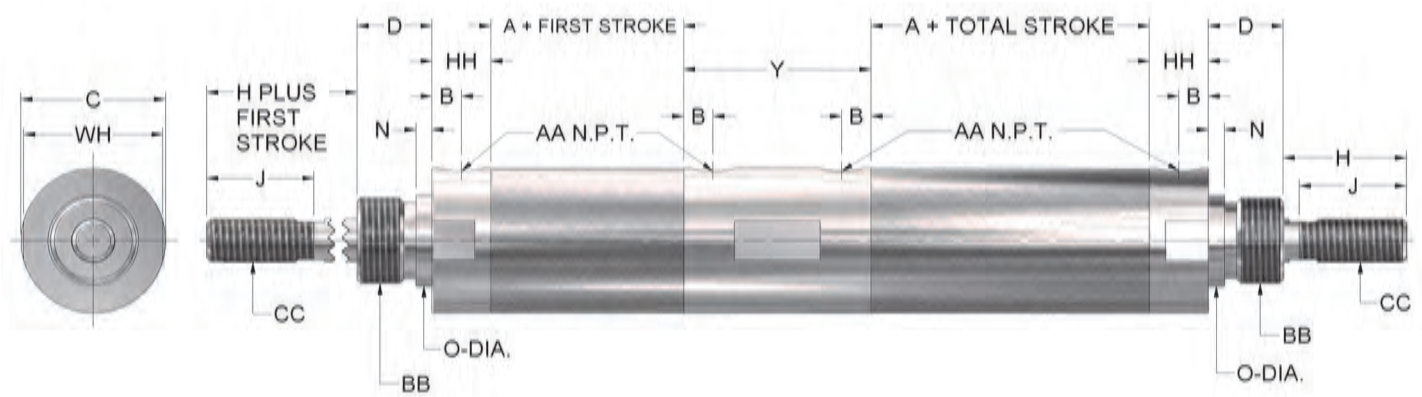
THREE POSITION:
TYPES: SSTAP & SSTEP SINGLE ENDED
TYPES: SSTAPD & SSTEP DOUBLE ENDED
Cylinders feature two separate piston rod assemblies which provide three definite and positive positions. Any combination of first stroke and total stroke is available. When ordering, second stroke must be specified as total stroke. The second Cylinder rod moves through both strokes.
For example, if first stroke required is 4" and second stroke is 2", order should read: **SSTAP- 2 X 4 X 6.** 6" being the total stroke (4+2).
Bore Sizes Available: 1-1/2" & 2", NOTE: Options must be indicated for each stroke.
NOTE: For a complete operational description see page 11.



Add **TB** to the SUFFIX
for thread on both ends.
See BB♦ dimension.

FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 27.

TYPES **SSTAPD** & **SSTEPD** THREE POSITION

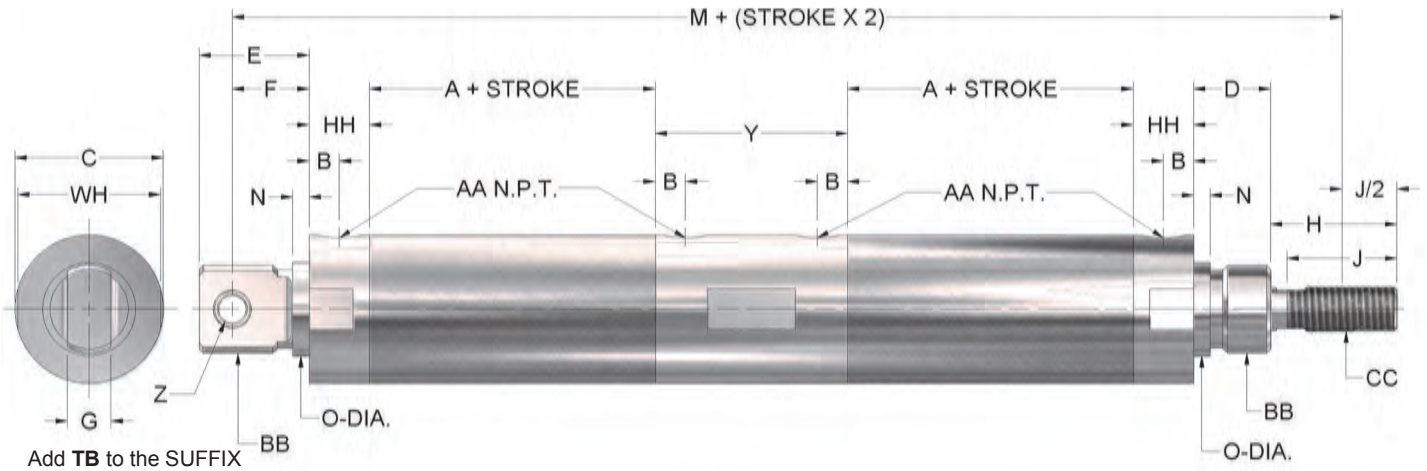


CYL. BORE SIZE	M				Y
	TYPE SSTAP		TYPE SSTEP		
	Std	OS	Std	OS	
1-1/2"	9-5/8	9-5/8	11-5/8	11-5/8	2-3/16
2"	9-5/8	9-5/8	11-5/8	11-5/8	2-3/16

FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 27.

TANDEM:
TYPE: ET SINGLE ENDED
TYPE: ETD DOUBLE ENDED
The basic construction of these Cylinders is identical to Type "E" and feature two Cylinders in tandem having two pistons mounted on one common rod. Pneumatic operation with hydraulic control can be obtained by operating the rear Cylinder pneumatically and filling the front Cylinder with oil and piping its ports in series using a flow control valve. The output force of a single Cylinder can be almost doubled using a Tandem Cylinder and piping both rear ports together and both front ports together, which will apply the working pressure to both Cylinders at the same time. This is particularly useful when space limitations preclude the use of large bore Cylinders, and the force required is greater than that supplied by smaller bore units.
Bore Sizes Available: 1-1/2" & 2"
Maximum Stroke Available:
Type "SSET" : 12".
Type "SSETD" : 12".

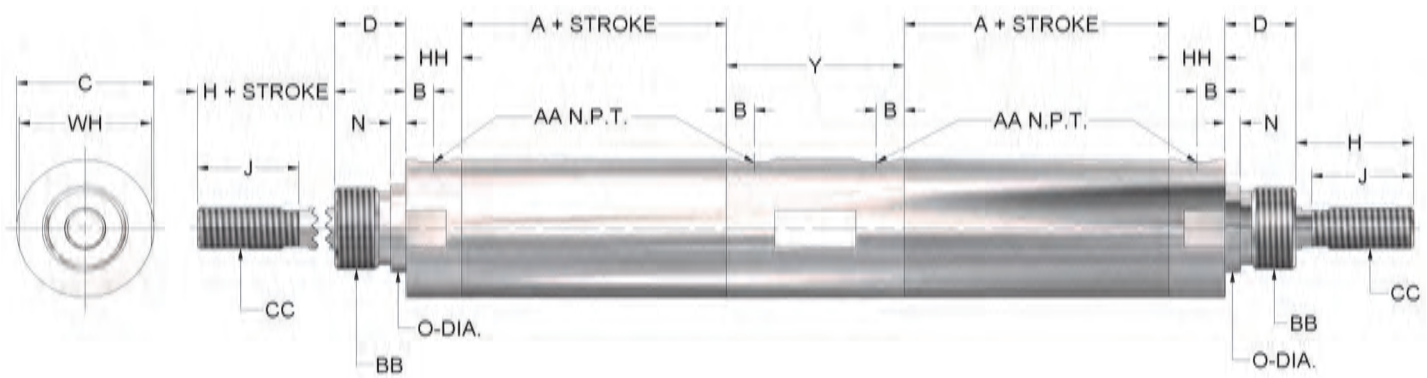
TYPE **SSTET** TANDEM



Add **TB** to the SUFFIX for thread on both ends.
See BB♦ dimension.

FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 27.

TYPE **SSTETD** TANDEM DOUBLE ENDED



ORDERING PROCEDURE

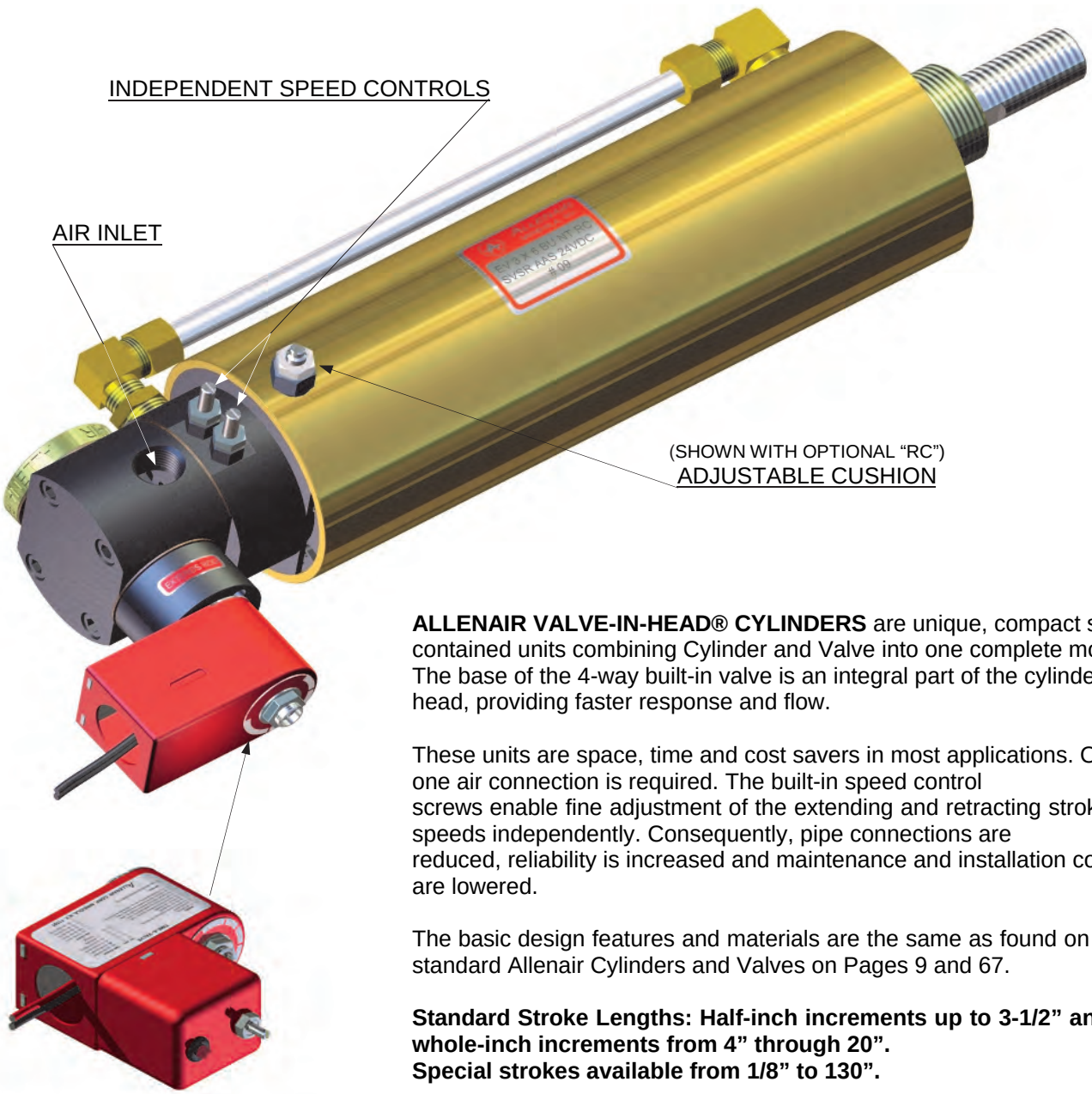
TYPE	BORE SIZE	STROKE	OPTIONS (List Alphabetically)

EXAMPLE: SSTE 1-1/2 X 6 HTP SRR

CYL. BORE SIZE	M		Y
	Std	OS	
1-1/2"	11-5/8	11-5/8	2-3/16
2"	11-5/8	11-5/8	2-3/16

FOR ALL DIMENSIONS NOT LISTED, SEE TABULATIONS ON PAGE 27.

THE COMPLETE POWER MODULE



ALLENAIR VALVE-IN-HEAD® CYLINDERS are unique, compact self-contained units combining Cylinder and Valve into one complete module. The base of the 4-way built-in valve is an integral part of the cylinder rear head, providing faster response and flow.

These units are space, time and cost savers in most applications. Only one air connection is required. The built-in speed control screws enable fine adjustment of the extending and retracting stroke speeds independently. Consequently, pipe connections are reduced, reliability is increased and maintenance and installation costs are lowered.

The basic design features and materials are the same as found on the standard Allenair Cylinders and Valves on Pages 9 and 67.

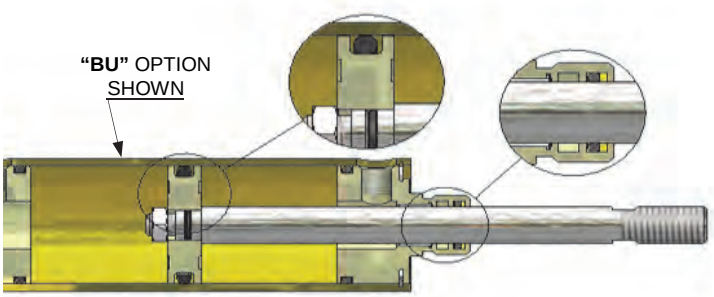
Standard Stroke Lengths: Half-inch increments up to 3-1/2" and whole-inch increments from 4" through 20".
Special strokes available from 1/8" to 130".

ALLENAIR "TIME-A-VALVE"
See page 80. A solid state Electronic Timer, integral with Allenair Solenoid Operators.

TYPE AV

All Type "AV" Cylinders, with the exception of the 4" bore are constructed using **"O"-Ring Seals**. The 4" bore uses "O"- Ring Rod Seals and "U"-Cup Piston Seals. Coupled with one of a wide variety of 4-way valves, these all purpose units are used for most pneumatic applications. Optional Double Rod Packing is recommended for heavy-duty applications.

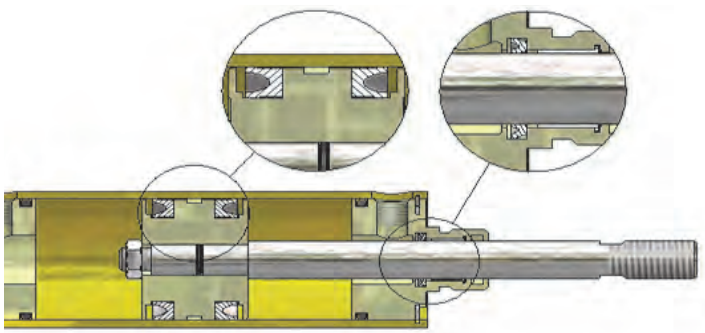
Pressure Rating: 20 P.S.I. Minimum
150 P.S.I. Maximum



TYPE CV

Type "CV" Cylinders are constructed using low friction **"U"- Cup Seals.** A heavy-duty wear strip (bearing) on the piston minimizes friction and piston cup wear, and on side load conditions prevents metal-to-metal contact. Coupled with one of a wide variety of 4-way valves, these units are primarily used on low friction applications and where low minimum breakaway is required.

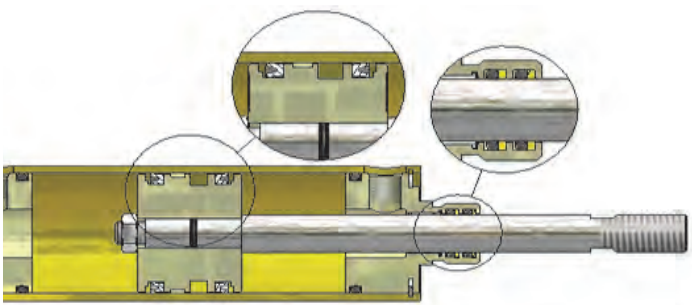
Pressure Rating: 10 P.S.I. Minimum
150 P.S.I. Maximum



TYPE EV

Type "EV" Cylinders are constructed using **Block-Vee Seals** and include a heavy-duty wear strip on the piston and double rod seals in the front head. Coupled with one of a wide variety of 4-way Valves, these Cylinders are recommended for heavy-duty applications and where side load conditions are present.

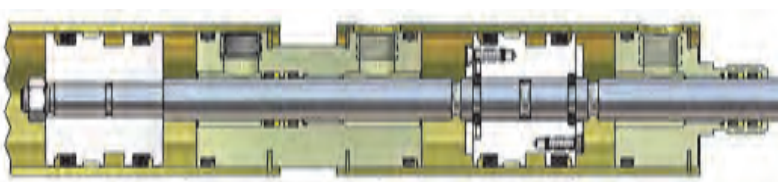
Pressure Rating: 20 P.S.I. Minimum
150 P.S.I. Maximum



TYPE EVT

Type "EVT" Cylinders feature two Cylinders in tandem having two pistons mounted on one common rod (as Type "ET" on Page 11). Block-Vee Seals are used and include a wear strip on both pistons and double rod seals in the front head. The rear Cylinder has the advantages of an air operated Valve-in-Head® Cylinder, yet hydraulic control can be obtained by filling the front Cylinder with oil and piping its ports in series using a flow control valve.

Pressure Rating: 20 P.S.I. Minimum
150 P.S.I. Maximum



BASIC CONSTRUCTION (VALVES)

The valve portion of the Valve-in-Head® Cylinder is a corrosion resistant slider type 4-way 2-position valves. The valve base is hard coated aluminum, lapped within one light band, and electro filmed. This provides minimum slider wear, positive seal and millions of trouble-free cycles.

A durable delrin spool rapidly pilots the high-tensile manganese bronze slider across the enlarged internal ports changing direction of flow. The built-in side tubing provides air passage to the front end of the Cylinder.
Valves are available as Solenoid, Pressure Pilot, Bleed Pilot, or Manual Models.

FOR DIMENSIONS AND MOUNTS SEE PAGES 40 - 44

SINGLE SOLENOID

MODEL SVS

These models incorporate a 4-way Single Solenoid Pilot Valve, air return. A maintained electrical contact is required to move the rods its full stroke. Breaking the electrical contact returns the rod to its original position.

Models can be supplied with the rod normally retracted (electrical contact will extend rod) or normally extended (electrical contact will retract rod).

The standard solenoid operator, is the **AAS** Splice box housing.

Bore Sizes Available: 1-1/8", 1-1/2", 2", 2-1/2", 3", 4" & *5.
Voltages: 12, 24,120 & 240/60 AC and 6, 12 & 24VDC are standard.

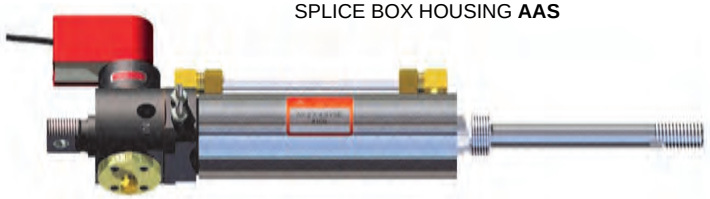
*** 5" BORE AVAILABLE-Consult Factory for Details.**

ROD NORMALLY RETRACTED MODEL SVSR
Energize solenoid to extend rod, de-energize solenoid to retract rod.

SHOWN WITH NEMA 4 / IP56
JIC WATERTIGHT HOUSING

ROD NORMALLY EXTENDED MODEL SVSE
Energize solenoid to retract rod, de-energize solenoid to extend rod.

SHOWN WITH
SPLICE BOX HOUSING **AAS**



SINGLE SOLENOID

MODEL SVEVA

These models incorporate a 4-way Single Solenoid Double Bleed Pilot Valve. A momentary (NOT continuous) electrical contact is required to move the rod its full stroke. A Bleeder Valve, such as the Allenair BV100 or BV-1/8 (to be ordered separately), must be connected to the spool cap opposite the solenoid.
Depressing this Bleeder Valve momentarily will return the rod to its original position.

Models can be supplied with the rod normally retracted (electrical contact will extend rod) or normally extended (electrical contact will retract rod). The standard solenoid operator, as shown is the **AAS** splice box housing.

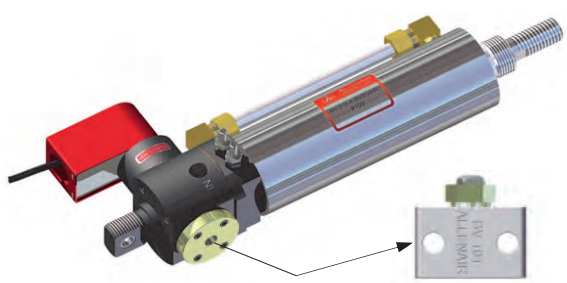
Bore Sizes Available: 1-1/8", 1-1/2", 2", 2-1/2", 3", 4" & *5".
Voltages: 12, 24, 120 & 240/60 AC and 6, 12 & 24VDC
Are standard.

*** 5" BORE AVAILABLE-Consult Factory for Details.**

FOR DIMENSIONS AND MOUNTS SEE PAGES 40 - 44

AVAILABLE IN TYPES "AV", "CV", "EV" & "EVT"

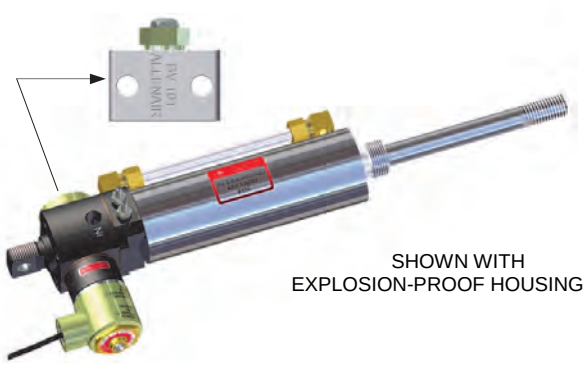
ROD NORMALLY RETRACTED MODEL SVEVAR
Energize solenoid to extend rod, manual bleed signal to retract rod.



OPTIONAL BLEEDER VALVE RETRACTS ROD

ROD NORMALLY EXTENDED MODEL SVEVAE
Energize solenoid to retract rod, manual bleed signal to extend rod.

OPTIONAL BLEEDER VALVE EXTENDS ROD



SHOWN WITH
EXPLOSION-PROOF HOUSING **AAX**

SINGLE SOLENOID

MODEL VER AUTOMATIC RETURN

Models incorporate a 4-way Single Solenoid Double Bleed Pilot Valve. A momentary (NOT continuous) electrical contact is required to move the rod its full stroke. Upon reaching its FULL stroke, the rod will automatically return to its original position.

Models can be supplied with the rod normally retracted (electrical contact will extend rod) or normally extended (electrical contact will retract rod). The standard solenoid operator is the **AAS** splice box housing.

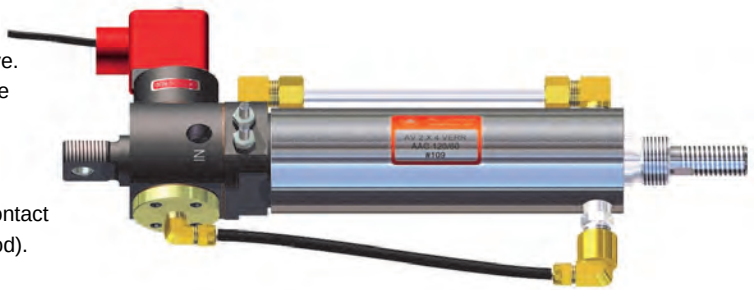
Due to internal construction and application requirements, there can be a loss of approximately 1/8" to 1/4" of stroke.

Bore Sizes Available: 1-1/2", 2", 2-1/2", 3", 4"& *5".
Voltages: 12, 24, 120 & 240/60 and 6, 12 & 24VDC are standard.

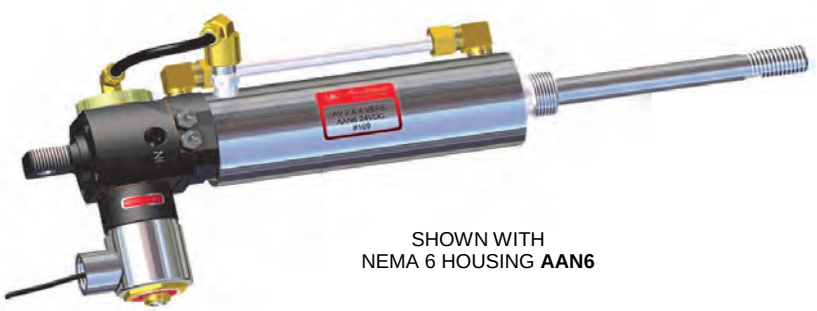
*** 5" BORE AVAILABLE-Consult Factory for Details.**

ROD NORMALLY RETRACTED
MODEL VERR
Energize solenoid to extend rod and retract automatically.

SHOWN WITH
CONDUIT HOUSING **AAC**



ROD NORMALLY EXTENDED
MODEL VERE
Energize solenoid to retract rod and extend automatically.



SHOWN WITH
NEMA 6 HOUSING **AAN6**

DOUBLE SOLENOID

MODEL SDS

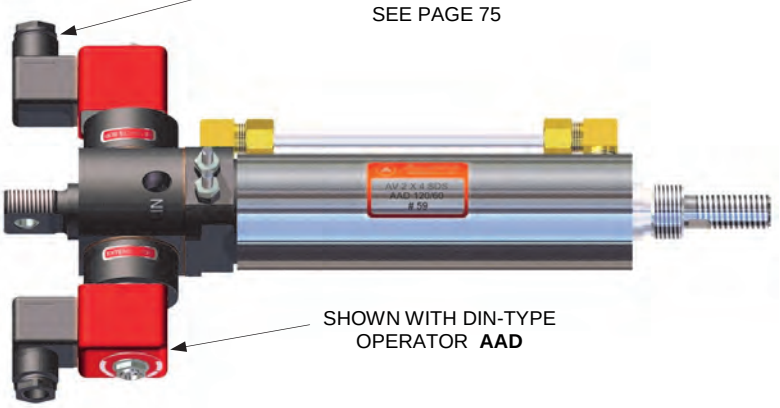
Models incorporate a 4-way Double Solenoid Pressure Pilot Valve. A momentary or maintained electrical contact applied to one solenoid will move the rod its full stroke. The rod will remain there under pressure until the other solenoid is energized, which will cause the rod to return to its original position. If a maintained contact is employed, the first solenoid must be de-energized before the other is energized. The standard solenoid operator is the **AAS** splice box housing.

Bore Sizes Available: 1-1/8", 1-1/2", 2", 2-1/2", 3" , 4" & *5".
Voltages: 12, 24, 120 & 240/60 AC and 6, 12 & 24VDC are standard.

*** 5" BORE AVAILABLE-Consult Factory for Details.**

MODEL SDS
Energize one solenoid to extend rod, other solenoid to retract rod.

DIN FEMALE CONNECTOR
ORDERED SEPARATELY
SEE PAGE 75



SHOWN WITH DIN-TYPE
OPERATOR **AAD**

**FOR DIMENSIONS AND MOUNTS
SEE PAGES 40 - 44**

SINGLE PILOT

MODEL APSR

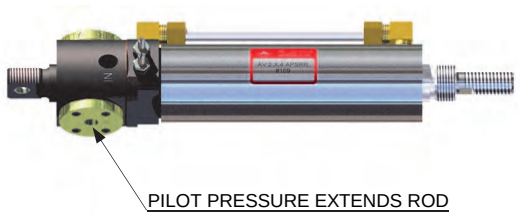
Models incorporate a 4-way Single Pressure Pilot Valve. A continuous pilot pressure applied to "IN" side of valve will move rod its full stroke. When the pilot pressure is released, the rod will return to its original position. Pilot pressure is normally supplied through an optional 3-way N.C. Valve.

Models can be supplied with the rod normally retracted (pilot pressure to extend rod) or normally extended (pilot pressure to retract rod). The pilot pressure must be at least 75% of the operating pressure.

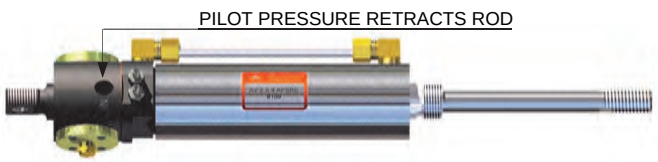
Bore Sizes Available: 1-1/8", 1-1/2", 2", 2-1/2", 3" , 4" & *5".

*** 5" BORE AVAILABLE-Consult Factory for Details.**

MODEL APSRR
ROD NORMALLY RETRACTED



MODEL APSRE
ROD NORMALLY EXTENDED



SINGLE PILOT

MODEL VAR AUTOMATIC RETURN

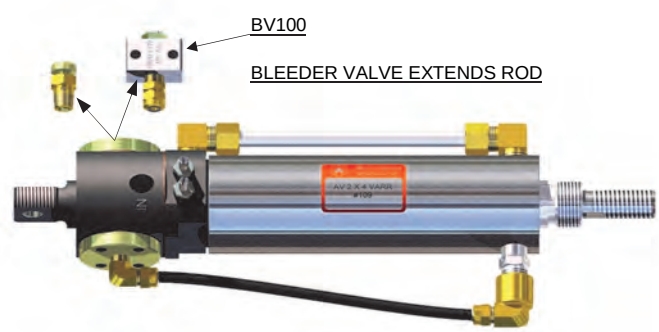
Models incorporate a 4-way Double Bleed Pilot Valve. A momentary (**NOT** continuous) actuation of Bleeder Valve is required to move the rod its full stroke. Upon reaching its **FULL** stroke, the rod will automatically return to its original position.

Models can be supplied with the rod normally retracted (manual bleed to extend rod) or normally extended (manual bleed to retract rod). Due to internal construction and application requirements, there can be a loss of approximately 1/8" to 1/4" of stroke.

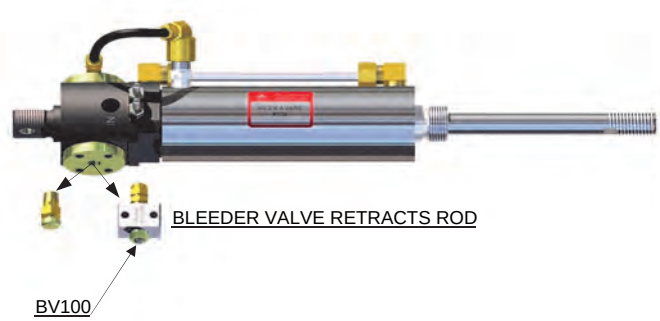
Bleeder Valve Model BV100 is supplied on these models.

Bore Sizes Available: 1-1/2", 2", 2-1/2", 3" & 4".

MODEL VARR
ROD NORMALLY RETRACTED



MODEL VARE
ROD NORMALLY EXTENDED



**FOR DIMENSIONS AND MOUNTS
SEE PAGES 40 - 44**

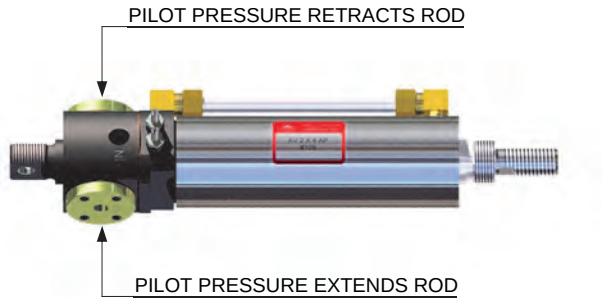
DOUBLE PILOT

MODEL AP

This model incorporates a 4-way Double Pressure Pilot Valve. A momentary or maintained pilot pressure applied to one side of the valve will move the rod its full stroke. The rod will remain in that position under pressure until a pilot pressure is applied to the other side, which will cause the rod to return to its original position. If a maintained pilot pressure is applied, it must be released before the other pilot pressure is applied. Pilot pressure must be at least 25% of the operating pressure.

Bore Sizes Available: 1-1/8", 1-1/2", 2", 2-1/2", 3", 4" & *5".

*** 5" BORE AVAILABLE-Consult Factory for Details.**



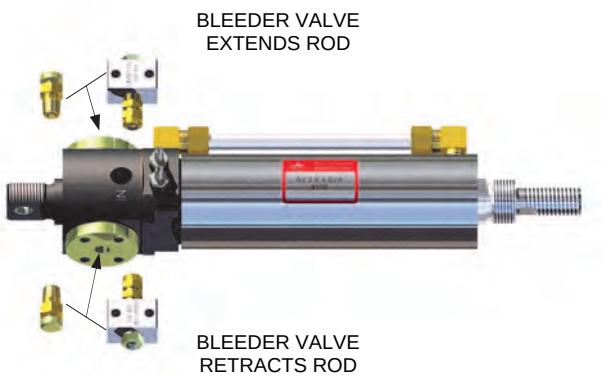
DOUBLE PILOT

MODEL SVA

This model incorporates a 4-way Double Bleed Pilot Valve. A Bleeder Valve, such as the Allenair BV100 or BV-1/8 (to be ordered separately) must be connected to each spool cap. Depressing one Bleeder Valve momentarily will move the rod its full stroke. Depressing the other Bleeder Valve momentarily will return the rod to its original position.

Bore Sizes Available: 1-1/8", 1-1/2", 2", 2-1/2", 3", 4" & *5".

*** 5" BORE AVAILABLE-Consult Factory for Details.**



MANUALLY OPERATED

The following 3 models incorporate a 4-way Manual Valve.
Bore Sizes Available: 1-1/8", 1-1/2", 2", 2-1/2", 3", 4" & *5".

*** 5" BORE AVAILABLE-Consult Factory for Details.**

MODEL VH:

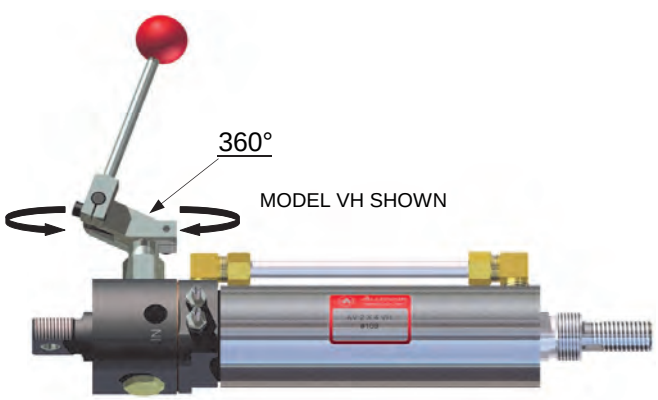
This model requires manual operation of the lever to both extend and retract the rod.

MODEL VHSRR:

This model is lever operated to extend the normally retracted rod. The valve is equipped with a built-in air return which automatically retracts the rod when lever is released.

MODEL VHSRE:

This model is lever operated to retract the normally extended rod. The valve is equipped with a built-in air return which automatically extends the rod when lever is released.



NOTE:
The Lever Assembly is fully adjustable in both the vertical and horizontal planes.

**FOR DIMENSIONS AND MOUNTS
SEE PAGES 40 - 44**

AUTOMATIC RECIPROCATING

MODEL VCR This model incorporates a 4-way Double Bleed Pilot Valve. By means of Built-in Bleeder Valves and internal Cam Bosses, this unit will automatically reciprocate as soon as air pressure is applied. Because of this, it is recommended that a shut-off valve be mounted in the inlet line. Due to internal construction and application requirements, there can be a loss of approximately 1/4" to 1/2" of stroke. Minimum stroke available is 1/2".

Bore Sizes Available: 1-1/2", 2", 2-1/2", 3" & 4".

STANDARD OPTIONS (CYLINDERS)
(AVAILABLE AT EXTRA COST)

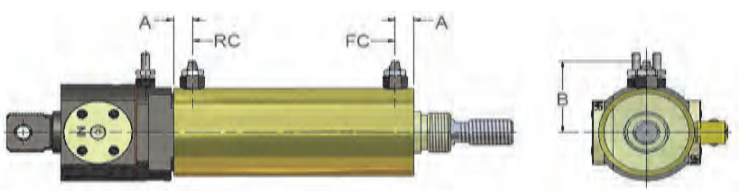
CUSHIONS LAST 1/2 INCH OF STROKE IS EFFECTIVELY CUSHIONED. FULL REVERSE FLOW PROVIDED. CYLINDER LENGTH NOT AFFECTED.

SPECIFY

FC (FRONT CUSHION)

RC (REAR CUSHION)

BC (CUSHION BOTH ENDS)



NOTES:
1) Dim. B cushion screw shown fully closed.
2) Non-Standard Cushion Adjusting Screw locations available at slight additional cost.

DIM.	BORE SIZE				
	1-1/2"	2"	2-1/2"	3"	4"
A	1/2	7/16	1/2	1/2	13/16
B	1-3/4	1-7/64	2-5/16	2-5/8	3-1/16

AVAILABILITY AND TYPES

	BORES SIZES								
	1 1/8"	1 1/8"-OS	1 1/2"	1 1/2"-OS	2"	2"-OS	2 1/2"	2 1/2"-OS	3" thru 4"-OS
FRONT CUSHION (ALL TYPES)	FX	NA	ADJ	FX	ADJ	FX	ADJ	ADJ	ADJ
REAR CUSHION (ALL TYPES)	FX	FX	ADJ	FX	ADJ	ADJ	ADJ	ADJ	ADJ

ADJ = ADJUSTABLE CUSHION AVAILABLE
FX = FIXED CUSHION ONLY AVAILABLE
NA = NO CUSHION AVAILABLE

NOTES: 1) Fixed Cushions are INTERNALLY constructed.
2) When required Cushions are installed on rear section of Type "EVT" Cylinders.

OVERSIZED RODS
SPECIFY OS

BORE SIZES	1-1/8"	1-1/2"	2"	2-1/2"	3"	4"
ROD DIA.	1/2"	5/8"	3/4"	1"	1"	1-1/4"

ROD WIPER
SPECIFY WR Rod Wiper removes dust, dirt and chips from the piston rod on the retracting stroke.

HIGH TEMPERATURE SEALS (CYLINDER & VALVE)
SPECIFY HTP Seals are a fluorocarbon compound (viton) and have an operating temperature range of +10°F to +350°F. They will function at temperatures up to +400°F with reduced life but not recommended. On solenoid operated units the core plunger is also supplied with viton seats.

NO TANG

SPECIFY NT
These Cylinders are available without the Tang section (covered by dimension "E") at no extra charge.
Suggested when Nose or Trunnion Mounting.

DOUBLE ROD PACKINGS

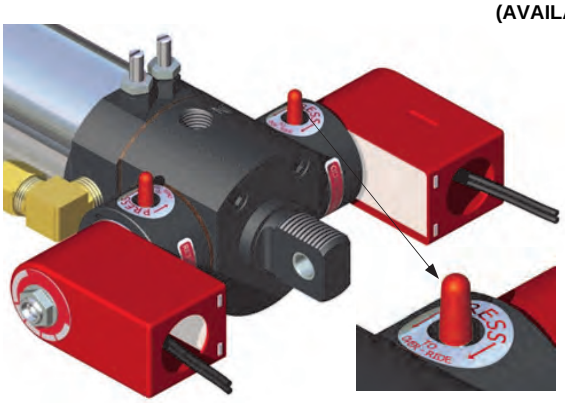
SPECIFY DRP
For all Type "AV" Cylinders, a second set of rod seals is available for Heavy-duty applications. Note: Not available on 1-1/8" bore size.

STAINLESS STEEL RETAINING RINGS

SPECIFY Q
Recommended for extremely damp or corrosive environments.

STANDARD OPTIONS (VALVES)

(AVAILABLE AT EXTRA COST)



MANUAL OVER-RIDE LEVER

SPECIFY OR
Non-locking Manual Over-Ride Levers are available on solenoid operated units. They are particularly useful for set-up or electrical failure.

SOLENOID OPERATORS

AAC **CONDUIT HOUSING,** UL & CSA Listed.

AAD **DIN-type HOUSING** with a male connector configuration of DIN 43650/ISO 4400. See page 75 for female connectors.

AAG **GROMMET HOUSING,** UL & CSA Listed.

AAS **SPLICE BOX HOUSING** (STANDARD), UL & CSA Listed.

AAX **EXPLOSION PROOF,** UL Listed covering Class I Groups C & D (NEMA 7) and Class II Groups E, F & G (NEMA 9).

AAY **SPADE TERMINALS,** UL & CSA Listed.

JIC **NEMA 4/IP-56**

AAN6 **NEMA 6**

SPECIAL VOLTAGES

A wide range of non-standard voltages are available. Specify voltage required.

PIPED EXHAUST ADAPTERS

SPECIFY PE Adapters are available which screw into the solenoid plunger housing, enabling the solenoid exhaust to be piped from the actuator.

MATERIALS

Special seal compounds are available for a wide range of fluid media and environments. Tubes, Front Heads, Pistons and Rods can be supplied plated, hard coated or in other materials.

Please consult the factory for these special requirements, stating quantity required.

MODIFICATIONS

Listed below are some of the many modifications Allenair makes daily.

RODS:

		SPECIFY
Non-Standard Rod Extensions.....	("H" Dim.)……	Length Required
Non-Standard Rod Threads.....	("CC" Dim.)……	Size Required
Non-Standard Rod Thread Length.....	("J" Dim.)……	Length Required
Female Threads on Rod……		Size & Depth Required
No Threads on Rod……		No Threads
Complete Special Rod End Configuration……		Print from Customer Required
Non-Standard Wrench Flats……		Location and Size
Special Rod Material……		Material Required

FRONT HEAD:

Non-Standard Cushion Adj. Screw Location & Extra Ports } Print from Customer required showing full details.

REAR HEAD:

Non-Standard Cushion Adj. Screw Location & Extra Ports } Print from Customer required showing full details.
Non-Standard Swivel Hole in Tang.....("Z" Dim.).....Size Required
Tang 90° from Standard……90° Tang

SPECIAL DESIGNS

Many times Allenair is able to change the standard configuration of our Cylinders to meet Customer's special requirements. A print from the Customer is needed so we can evaluate and properly quote on such specials.

PLEASE CONSULT FACTORY ON THE ABOVE SPECIALS STATING QUANTITIES REQUIRED.

ORDERING PROCEDURE

TYPE	BORE SIZE	STROKE	CYLINDER OPTIONS	MODEL	VALVE OPTIONS	VOLTAGE	CUSTOMER SPECIAL
SEE PAGE 32	SPECIFY	SPECIFY	SEE PAGES 37,38,39,49,50,51 & 52	SEE PAGES 33,34,35,36 & 37	SEE PAGE 38	SPECIFY	WHEN REQ'D

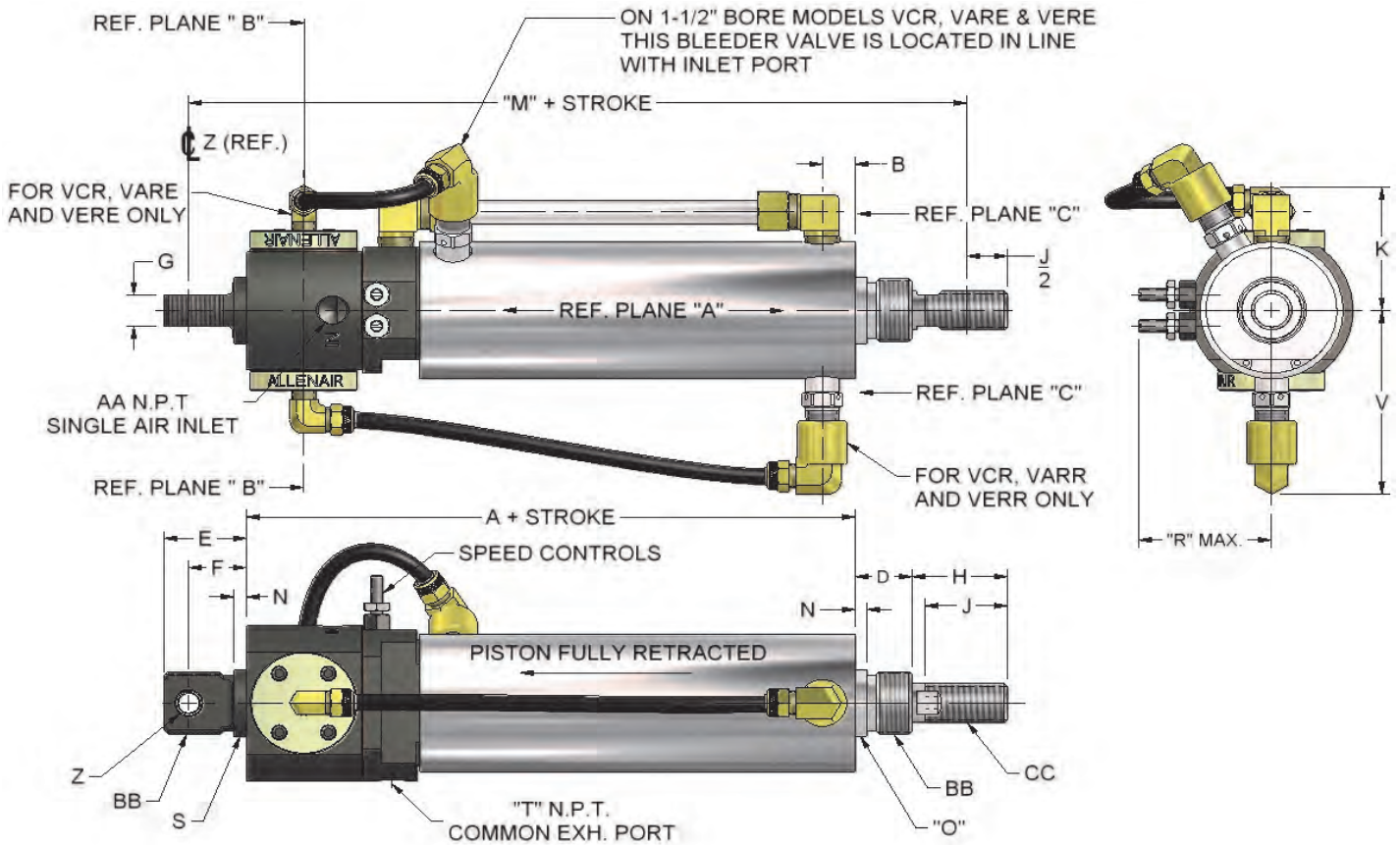
EXAMPLE: EV 3 X 8 BC IB OS RG SDS AAX OR 120/60 CS

List all Cylinder and Valve Options alphabetically

CODE LETTERS	DESIGNATION
BC……	Cushions Both Ends
IB……	AB Accessory Pin Installed in Both Ends
OS……	Oversized Rod
RG……	Outboard Rod Guide Installed
AAX……	Explosion Proof Solenoid Operator
OR……	Manual Over-Ride Leaver
CS……	Special per Customers Specifications

DOUBLE ACTING: 1-1/8" - 5" BORES

FOR MODELS:
AP, APSRE, APSRR, SVA, VARE, VARR &VCR



CYL. BORE SIZE	A		B	C	D		E	F	G	H	J	K	L	M				N	O		P	R	S	T
	TYPE AV	TYPES CV, EV EVT			STD.	OS (Front Only)								TYPE AV Std	TYPE AV OS	TYPE CV & EV Std	TYPE CV & EV OS		STD.	OS (Front Only)				
1-1/8"	4-1/2	5-1/2	3/8	♦1-5/16	5/8	5/8	1-1/4	7/8	1/2	1" *	7/8*	2"	1-1/4	6-9/16	6-15/16	7-9/16	7-15/16	3/16	3/4**	7/8	7/8	2-1/32	1-1/16	1/4
1-1/2"	5-1/4	6-1/4	1/2	♦1-11/16	7/8	7/8	1-1/4	7/8	1/2	1-7/16	1-1/4	1-15/16	1-1/4	7-13/16	7-13/16	8-13/16	8-13/16	3/16	1-1/16	1-1/16	7/8	2-1/32	1-1/16	1/4
2"	5-1/4	6-1/4	1/2	♦2-3/16	7/8	7/8	1-1/4	7/8	1/2	1-7/16	1-1/4	2"	1-1/4	7-13/16	7-13/16	8-13/16	8-13/16	3/16	1-1/16	1-3/8	7/8	2-1/32	1-1/16	1/4
2-1/2"	5-5/8	6-5/8	9/16	♦2-11/16	1"	1"	2"	1-3/8	5/8	1-11/16	1-1/2	2-1/4	1-1/4	8-15/16	8-15/16	9-15/16	9-15/16	1/4	1-3/8	1-1/2	7/8	2-1/32	1-3/8	1/4
3"	5-5/8	6-5/8	9/16	♦3-3/16	1"	1"	2"	1-3/8	5/8	1-11/16	1-1/2	2-5/8	1-1/4	8-15/16	8-15/16	9-15/16	9-15/16	1/4	1-3/8	1-1/2	7/8	2-1/32	1-3/8	1/4
4"	8-1/2	8-1/2	13/16	4-3/8	1-1/8	1-7/8	2-3/16	1-7/16	3/4	2-1/4	1-7/8	3-7/16	1-19/32	12-3/8	13-1/8	12-3/8	13-1/8	3/16	1-3/4	2-1/4	13/16	2-7/16	1-3/4	1/2
5"	N/A	8-1/2	13/16	5-3/8	1-7/8	N/A	N/A	N/A	N/A	2-1/4	1-7/8	4-7/16	1-19/32	N/A	N/A	N/A	N/A	3/16	2-1/4	N/A	13/16	2-7/16	N/A	1/2

CYL. BORE SIZE	V	Z	AA	BB		CC		ROD DIA.	
				STD	OS (Front Only)	STD	OS	STD	OS
1-1/8"	—	5/16	1/4	1"-14***	7/8-12	3/8-16	1/2-13	3/8	1/2
1-1/2"	2-5/8	5/16	1/4	1"-14	1"-14	1/2-13	5/8-11	1/2	5/8
2"	2-7/8	5/16	1/4	1"-14	1-3/8-12	5/8-11	3/4-10	5/8	3/4
2-1/2"	3-1/8	7/16	3/8	1-3/8-12	1-1/2-12	3/4-10	1"-14	3/4	1"
3"	3-3/8	7/16	3/8	1-3/8-12	1-1/2-12	3/4-10	1"-14	3/4	1"
4"	3-15/16	1/2	1/2	1-3/4-12	2-1/4-12	1"-14	1-1/4-12	1"	1-1/4
5"	N/A	N/A	1/2	2-1/4-12	N/A	1-1/4-12	N/A	1-1/4	N/A

*On Oversize Models, H=1-3/8" & J=1-1/4"
**7/8 On Type "CV" only.
***1"-14 Rear and 3/4-16 Front on types "AV & "EV"
1"-14 Rear and 7/8-14 Front on types "CV"
♦ Add 1/16" to the "C" dimension for "BU" option.
Omit dimensions E, F, and N when laying out Cylinder with tang section omitted.
Dimension "A" on "4" Bore No Tang is 8"

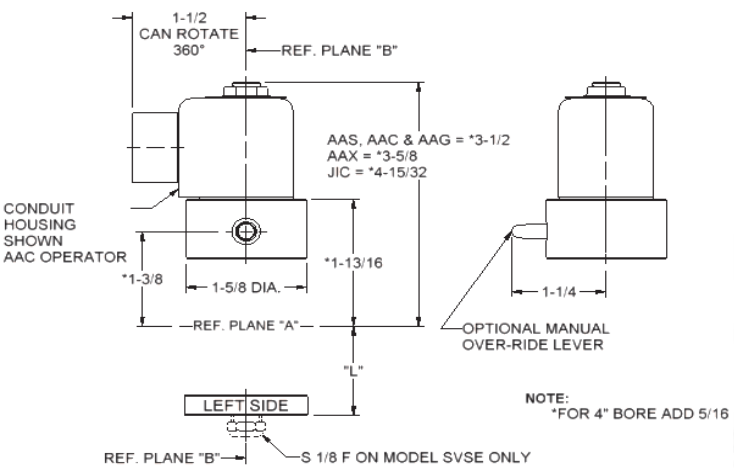
STANDARD WRENCH FLATS

ROD DIA.	W	X	Y
3/8"	5/16	15/16	5/16
1/2"	7/16	1-3/8	5/16
5/8"	1/2	1-3/8	5/16
3/4"	5/8	1-5/8	5/16
1"	7/8	2-1/8	3/8
1-1/4"	1-1/8	2-1/8	3/8

FOR MODELS:
SVSE
SVEVAR
VERR
ALL OPERATORS

To complete drawings of above models, simply match reference planes "A" and "B" with those on the top view of the master drawing on page 40

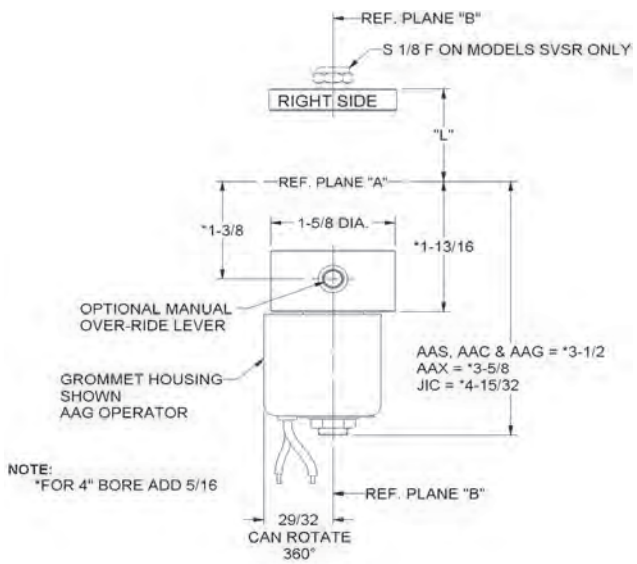
For AAS, AAX and JIC housing dimensions see below and for AAG dimensions see Right side.



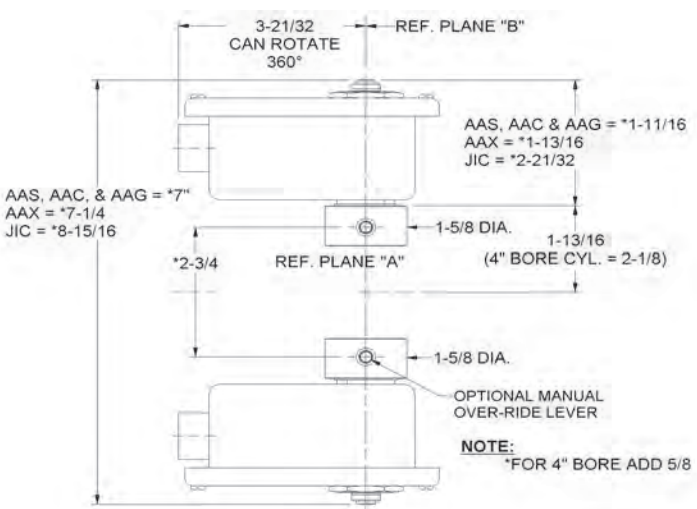
FOR MODELS:
SVSR
SVEVAE
VERE
ALL OPERATORS

To complete drawings of above models, simply match reference planes "A" and "B" with those on the top view of the master drawing on page 40

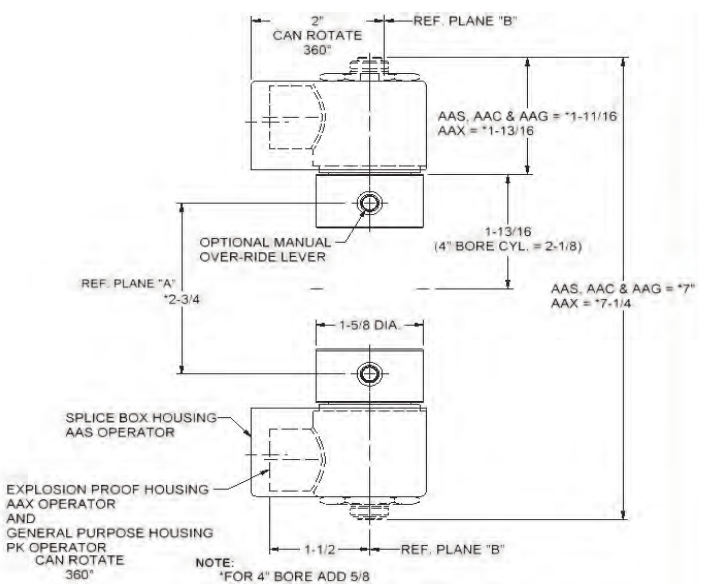
For AAC housing dimensions see left side of page. for JIC and AAX dimensions see below.



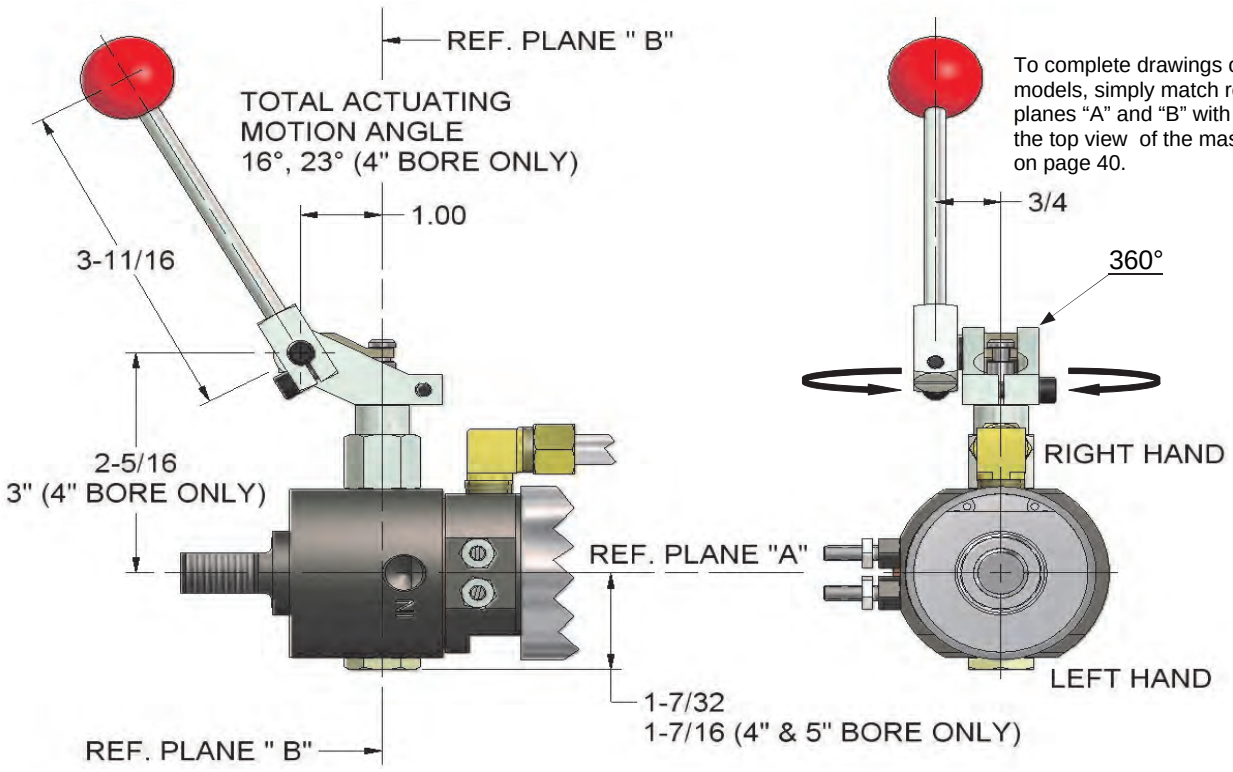
FOR MODELS:
SDS
ALL OPERATORS



To complete drawings of above models, simply match reference planes "A" and "B" with those on the top view of the master drawing on page 40
For AAC and AAG housing dimensions see above and for JIC dimensions look to the left.



FOR MODELS: VH , VHSRE & VHSRR

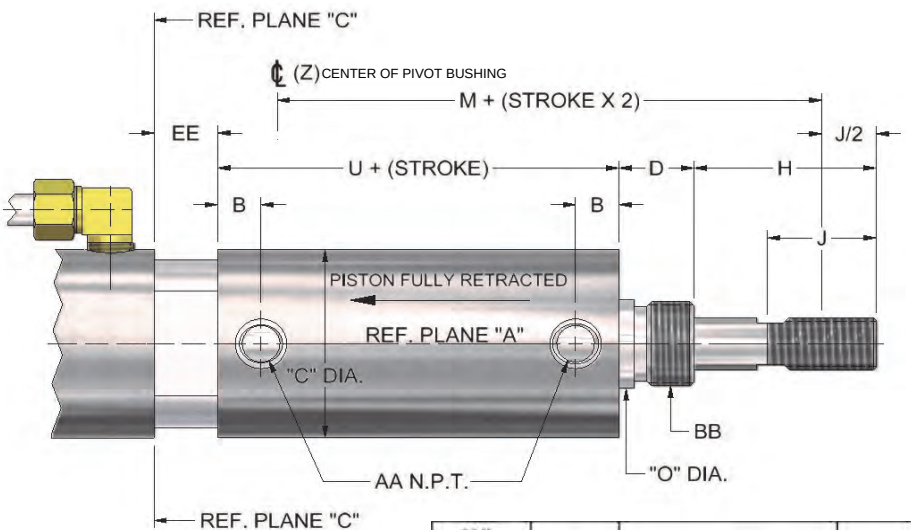


To complete drawings of above models, simply match reference planes "A" and "B" with those on the top view of the master drawing on page 40.

NOTES:

1) FOR MODEL VHSRR THE HANDLE ASSEMBLY IS LOCATED ON THE LEFT SIDE
2) THE HANDLE HAS A 180° ADJUSTMENT AND MAY BE ROTATED TO ANY POSITION ABOUT REF. PLANE "B"
3) FOR ALL MODELS WHEN USED WITH 4" & 5" BORE CYLINDERS, DIMENSION "A" & "M" ARE 9/16 LESS THAN THOSE ILLUSTRATED ON PAGE 40.

FOR TYPE EVT



To complete drawings of Tandem unit, simply match reference planes "A" and "C" with those on the top view of the master drawing on page 40.

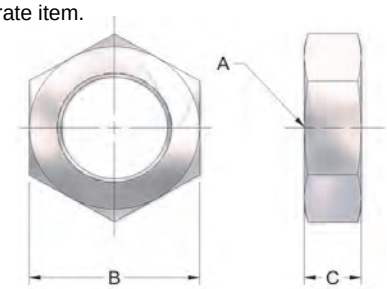
CYL. BORE SIZE	H	M		U	EE
		Std	OS		
1-1/2"	2-1/16	13-13/16	13-13/16	3-5/8	3/4
2"	2-1/16	13-13/16	13-13/16	3-5/8	3/4
2-1/2"	1-11/16	14-15/16	14-15/16	3-7/8	1-1/8
3"	1-11/16	14-15/16	14-15/16	3-7/8	1-1/8
4"	2-1/4	13-1/2	14-1/4	4-7/8	1-1/8

CYL. BORE SIZES	FOOT MOUNT			FLANGE MOUNT			ROD CLEVIS, NUT & PIN		ROD NUT ONLY		SWIVEL BRACKET & PIN	TRUNNION (BU OPTION)	MOUNTING NUTS	
	FRONT		REAR	FRONT		REAR								
	STD	OS		STD	OS		STD	OS	STD	OS			STD	OS (Front Only)
1-1/8"	AV-232 ♦	AV-232-OS	A-232	A-129 ♦	A-129-OS	A-229	A-145	A-1545	A-126	A-1526	A-239	T-1	A-114*♦	A-114-OS*
1-1/2"	A-232	A-232	A-232	A-229	A-229	A-229	A-1545	A-245	A-1526	A-226	A-239	T-1.5	A-214	A-214
2"	A-232	A-232-OS	A-232	A-229	A-229-OS	A-229	A-245	A-345	A-226	A-326	A-239	T-2	A-214	A-314
2-1/2"	A-332	A-332-OS	A-332	A-329	A-329-OS	A-329	A-345	A-445	A-326	A-426	A-339	T-2.5	A-314	A-314-OS
3"	A-332	A-332-OS	A-332	A-329	A-329-OS	A-329	A-345	A-445	A-326	A-426	A-339	T-3	A-314	A-314-OS
4"	A-432	A-432-OS	A-432	A-429	A-429-OS	A-429	A-445	A-445-OS	A-426	A-526	A-439	T-4	A-414	A-414-OS

♦Type "CV" Standard Cylinders use OS Mount or Mounting Nut for front.
*For Front Head Only. Rear takes A-214.

MOUNTING NUTS

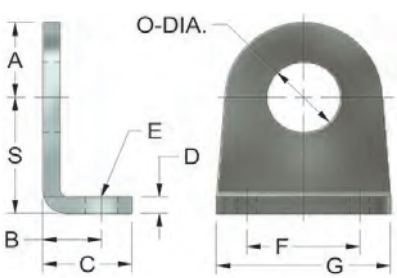
Mounting Nuts are supplied only with Flange or Foot Mounts and are included in the price of those Mounts. However, they may be purchased as a separate item.



PART No.	A	B	C
A-114	3/4-16	1-1/16	3/8
A-114-OS	7/8-14	1-1/4	25/64
A-214	1"-14	1-1/2	1/2
A-314	1-3/8-12	1-3/4	5/8
A-314-OS	1-1/2-12	1-13/16	5/8
A-414	1-3/4-12	2-1/4	3/4
A-414-OS	2-1/4-12	3"	1"

MOUNTING BRACKET DIMENSIONS

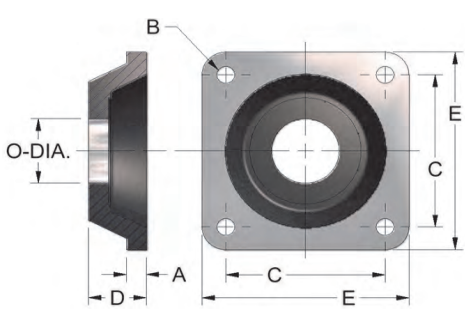
FOOT MOUNT



DIM.	PART NUMBERS									
	A-132		AV-232		A-232		A-332		A-432	
	STD	OS	STD	OS	STD	OS	STD	OS	STD	OS
A	11/16	11/16	1-1/8	1-1/8	1-1/8	1-1/8	1-3/8	1-3/8	1-7/8	1-7/8
B	7/8	7/8	7/8	7/8	7/8	7/8	1-1/4	1-1/4	1-3/4	1-3/4
C	1-3/8	1-3/8	1-9/32	1-9/32	1-9/32	1-9/32	1-29/32	1-29/32	2-17/32	2-17/32
D	3/16	3/16	1/4	1/4	1/4	1/4	5/16	5/16	1/2	1/2
E	9/32	9/32	9/32	9/32	9/32	9/32	13/32	13/32	15/32	15/32
F	1-11/16	1-11/16	1-5/8	1-5/8	1-5/8	1-5/8	2-1/4	2-1/4	3-1/4	3-1/4
G	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	2-1/2	3-1/2	3-1/2	5"	5"
O	3/4	7/8	3/4	7/8	1-1/16	1-3/8	1-3/8	1-1/2	1-3/4	2-1/4
S	1-9/32	1-9/32	1-3/4	1-3/4	1-3/4	1-3/4	2-3/8	2-3/8	3-3/16	3-3/16

FLANGE MOUNT

FRONT OR REAR

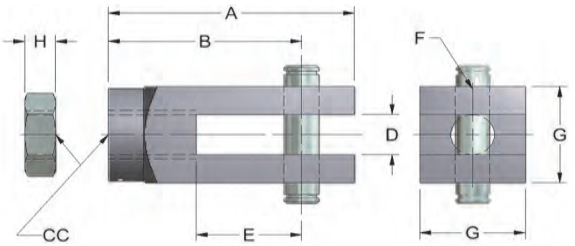


DIM.	PART NUMBERS							
	A-129		A-229		A-329		A-429	
	STD	OS	STD	OS	STD	OS	STD	OS
A	9/32	9/32	11/32	11/32	13/32	13/32	7/16	1 29/32
B	9/32	9/32	9/32	9/32	13/32	13/32	15/32	15/32
C	2"	2"	2-1/2	2-1/2	3-3/8	3-3/8	4"	4"
D	5/8	5/8	7/8	7/8	1"	1"	1 1/8	1-29/32
E	2-1/2	2-1/2	3-1/4	3-1/4	4-1/2	4-1/2	5-1/4	5-1/4
O	3/4	7/8	1-1/16	1-3/8	1-3/8	1-1/2	1-3/4	2-1/4

Front Flange Mounting **NT** Option suggested
Rear Flange Mounting **J2** Option suggested
provides Tang flush with flange mounting surface.

VALVE-IN-HEAD ® MOUNTS

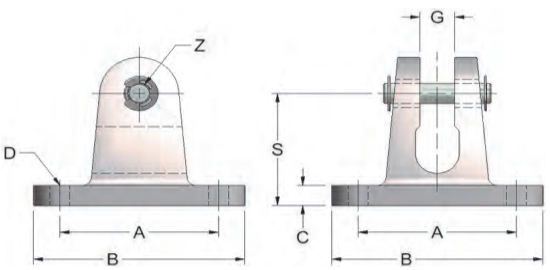
ROD CLEVIS, NUT & PIN



*Order A-445

DIM.	PART NUMBERS									
	A-145		A-1545		A-245		A-345		A-445	
	STD	OS	STD	OS	STD	OS	STD	*OS	STD	OS
A	1-3/4	2-1/4	2-1/4	2-1/4	2-1/4	2-3/8	2-3/8	3-3/8	3-3/8	3-1/2
B	1-3/8	1-3/4	1-3/4	1-3/4	1-3/4	1 13/16	1-13/16	2-5/8	2-5/8	2-5/8
CC	3/8-16	1/2-13	1/2-13	5/8-11	5/8-11	3/4-10	3/4-10	1"-14	1"-14	1-1/4-12
D	5/16	3/8	3/8	3/8	3/8	1/2	1/2	5/8	5/8	3/4
E	3/4	13/16	13/16	13/16	13/16	3/4	3/4	1-1/16	1-1/16	1-1/8
F	1/4	5/16	5/16	5/16	5/16	7/16	7/16	1/2	1/2	3/4
G	3/4	1"	1"	1"	1"	1-1/4	1-1/4	1-1/2	1-1/2	1-3/4
H	7/32	5/16	5/16	3/8	3/8	27/64	27/64	1/2	1/2	23/32

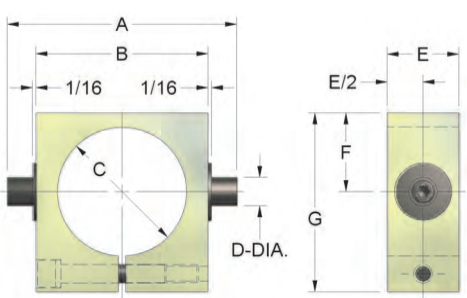
SWIVEL BRACKET



DIM.	PART NUMBERS			
	A-139	A-239	A-339	A-439
A	1-3/4	2-1/4	3"	3-3/4
B	2-1/4	3"	4"	5"
C	1/4	5/16	5/16	1/2
D	9/32	9/32	13/32	15/32
G	3/8	1/2	5/8	3/4
S	1-9/32	1-3/4	2-3/8	3-3/16
Z	1/4	5/16	7/16	1/2

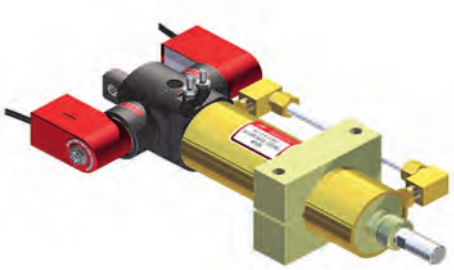
TRUNNION MOUNT

BU OPTION REQUIRED
NT OPTION SUGGESTED

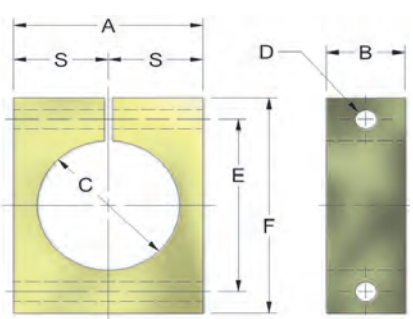


DIM.	PART NUMBERS					
	T-1	T-1.5	T-2	T-2.5	T-3	T-4
A	3-1/2	4"	4"	5-1/2	5-3/4	7"
B	2-1/4	3"	3"	4"	4-1/4	5-1/2
C	1-3/8	1-3/4	2-1/4	2-3/4	3-1/4	4-3/8
D	3/8	1/2	1/2	3/4	3/4	3/4
E	3/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2
F	7/8	1-1/8	1-3/8	1-7/8	2-1/8	2-11/16
G	2"	2-5/8	3-1/8	4"	4-1/2	5-3/4

BLOCK MOUNT



BU OPTION REQUIRED
NT OPTION SUGGESTED



DIM.	PART NUMBERS			
	BM-7/8	BM-1 1/8	BM-1 1/2	BM-2
A	1-1/2	1-3/4	2-1/4	3"
B	1"	1"	1-1/4	1-1/4
C	1-1/8	1-3/8	1-3/4	2-1/4
D	9/32	9/32	9/32	11/32
E	1-5/8	1-7/8	2-3/8	3"
F	2-1/4	2-1/2	3"	3-3/4
S	3/4	7/8	1-1/8	1-3/8

ALLENAIR "TIME-A-VALVE"®
See page 80.

Cylinders are available with 1-1/8" bore only. They are Single Acting Cylinders controlled by a 3-way Single Solenoid Valve mounted to the rear head of the units. The standard solenoid operator (as shown) is the **AAS** splice box housing. A general purpose conduit housing **(AAC)** is also available. Most common AC & DC voltages are available. 12, 24, 120 & 240/60 and 6, 12 & 24/DC are standard. The basic construction is the same as our 1-1/8" bore Type "A" Cylinders.

TYPE AVSA

A continuous electrical contact is required to fully extend the rod, which will remain extended until the electrical contact is broken. An external force is required to return the rod to its original position. A 1/8" N.P.T. port is provided in the front head to permit the return of the rod by means of a separate air supply when required. This port can also be used to install a Flow Control Valve to control forward speed.
Standard stroke lengths are whole inch increments from 1" through 20" and 1/2", 1-1/2", 2-1/2" and 3-1/2" . Special strokes available from 1/8" to 80" maximum.

TYPE AVSR

ROD NORMALLY RETRACTED
A continuous electrical contact is required to fully extend the rod, which will remain extended until the electrical contact is broken. An internal spring will return the rod to its fully retracted position.
SPRING FORCE: 17 LBS. AT REST, 40 LBS. FULL STROKE.
Standard stroke lengths are whole inch increments from 1" through 10" and 1/2", 1-1/2", 2-1/2" & 3-1/2"
Special strokes available from 1/4" to 10" maximum.

TYPE AVSRR

ROD NORMALLY EXTENDED
A continuous electrical contact is required to fully retract the rod, which will remain retracted until the electrical contact is broken. An internal spring will return the rod to its fully extended position.
SPRING FORCE: 17 LBS. AT REST, 40 LBS. FULL STROKE.
Standard stroke lengths are whole inch increments from 1" through 10" and 1/2", 1-1/2", 2-1/2" and 3-1/2" . Special strokes available from 1/4" to 10" maximum.

NOTE: On above types the normal actuation may be reversed by using the optional **PE** adaptor as the air inlet.

OPTIONS

For available options, please see Pages 37, 38, and 39. Cushions not available on these cylinders.

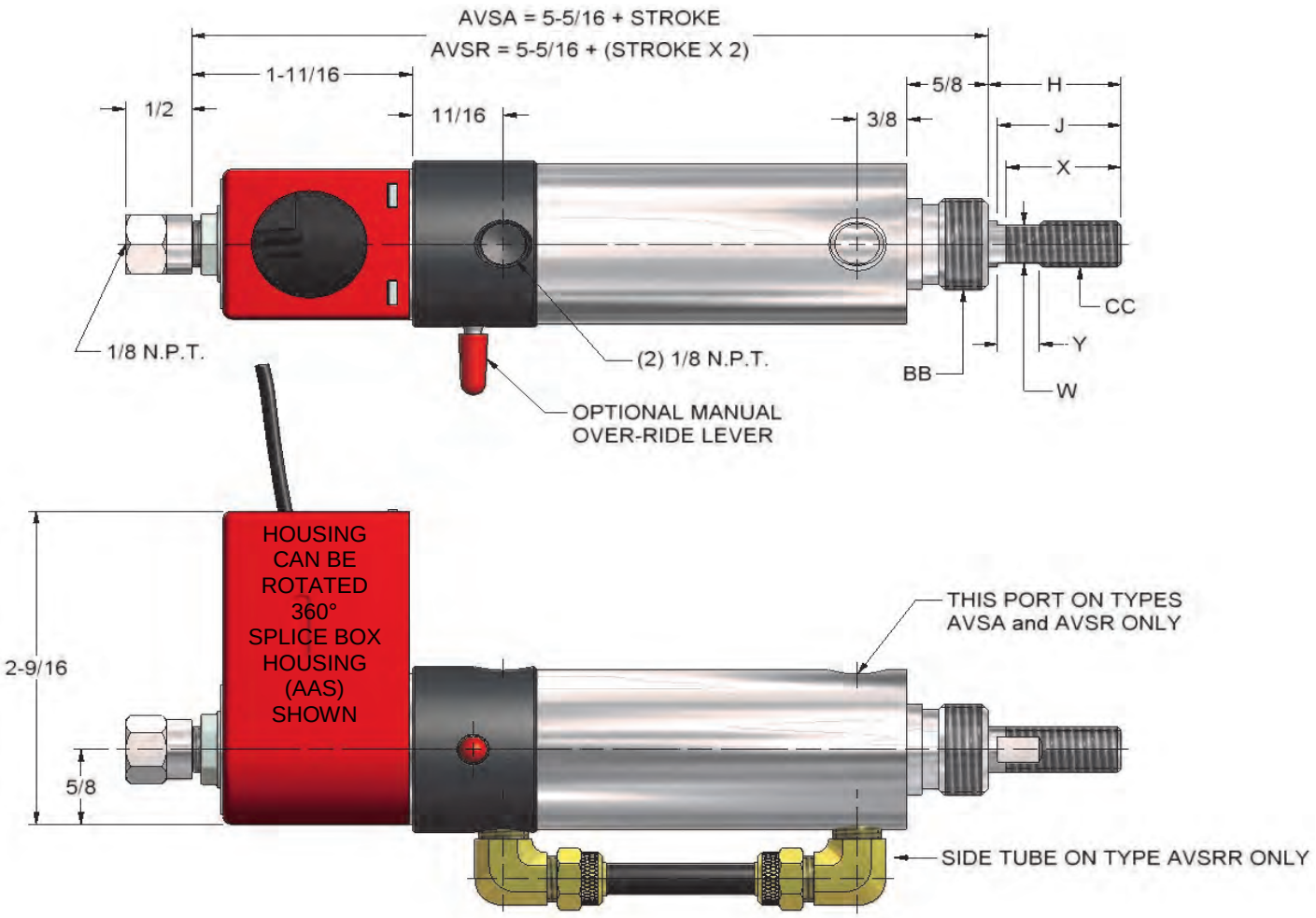
ORDERING PROCEDURE

TYPE SEE ABOVE	**BORE** 1-1/8" ONLY	**STROKE** SPECIFY	**CYLINDER OPTIONS** SEE PAGES 37, 38,39	**VALVE OPTIONS** SEE PAGE 38	**VOLTAGE** SPECIFY	**CUSTOMER SPECIAL** WHEN REQ'D

EXAMPLE: AVSR 1-1/8 X 4 OS RG AAS OR 120/60 CS

CODE LETTERS	DESIGNATION
OS	Oversized Rod
RG	Outboard Rod Guide Installed
AAS	Standard Splice Box Housing
OR	Manual Over-Ride Leaver

NOTE: List all Cylinder and Valve Options alphabetically.



NOTE: MOUNTING NUT IS SUPPLIED

	H	J	W	X	Y	BB	CC
STANDARD	1	7/8	5/16	15/16	5/16	3/4-16	3/8-16
OVERSIZE	1-3/8	1-1/4	7/16	1-3/8	5/16	7/8-14	1/2-13

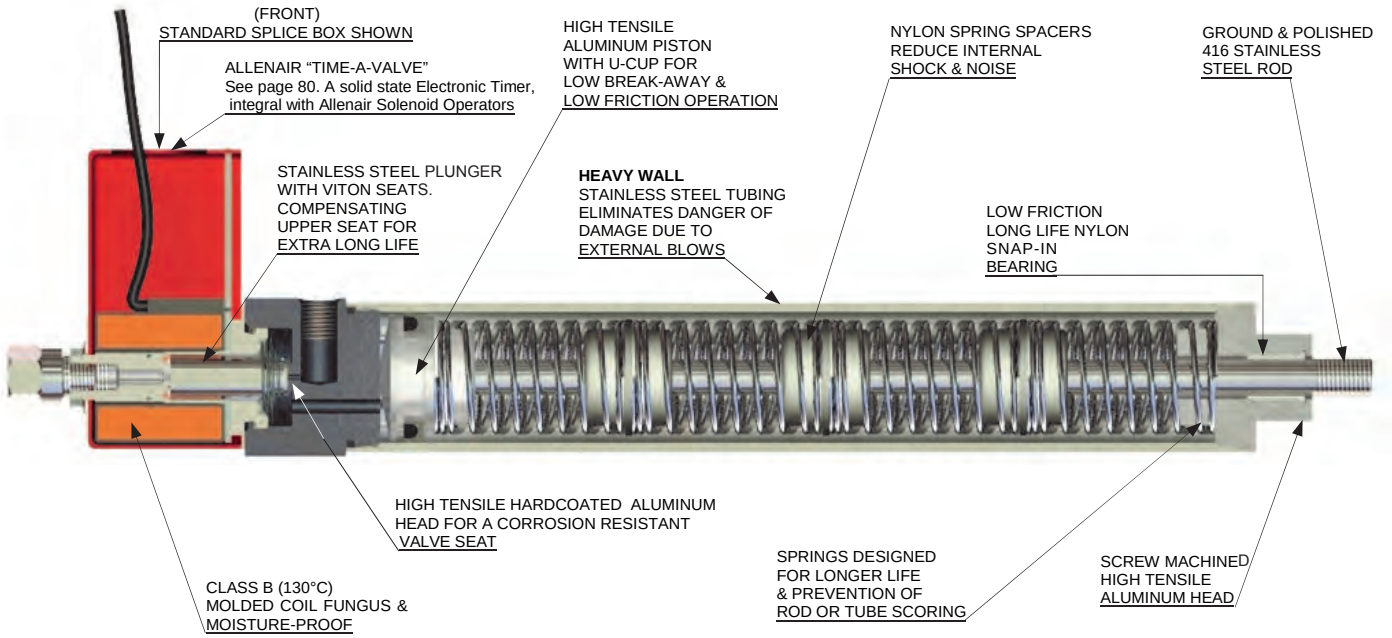
MOUNTING BRACKET PART NUMBERS

	FOOT MOUNT	FLANGE MOUNT	ROD CLEVIS NUT & PIN	ROD NUT	TRUNNION MOUNT	BLOCK MOUNT	MOUNTING NUT
STANDARD	A-132	A-129	A-145	A-126	T-1*	BM-1*	A-114
OVERSIZE	A-132-OS	A-129-OS	A-1545	A-1526	T-1*	BM-1*	A-114-OS

* BU OPTION REQUIRED

FOR MOUNTING BRACKET DIMENSION SEE PAGES 20 & 21

Stainless Steel Tube Completely Repairable Unit
DESIGN FEATURES & MATERIALS



Most common AC & DC Voltages are available. 12, 24,120 & 240/60 and 6, 12 & 24VDC are standard. Maximum operating pressure - 150 P.S.I.

A continuous electrical contact is required to fully extend the rod, which will remain extended until the electrical contact is broken, at which time the spring will return the rod to its fully retracted position. This action can be reversed by using the optional PE adapter as the air inlet.

TYPE AVSM - 1/2"

Standard stroke lengths in 1/2"increments to 4".

Spring Force:

20 oz. retracted.

40 oz. extended.

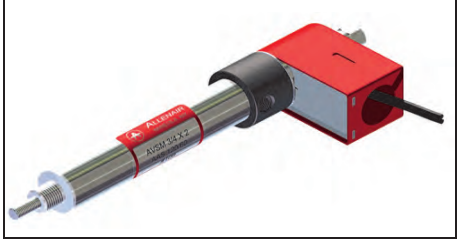
TYPE AVSM - 3/4"

Standard stroke lengths in 1" increments to 4".

Spring Force:

2 lbs. retracted.

7 lbs. extended.



TYPES AVSM- 1-1/8" AVSMS- 1-1/8"

Standard stroke lengths in 1" increments to 4".

Spring Force:

AVSM	AVSMS
3	6 – 1/2 lbs. retracted
6	13 lbs. extended.

OPTIONS

SPECIFY HTP FOR HIGH TEMPERATURE CYLINDER SEALS

These seals are a fluorocarbon compound (viton) and have an operating temperature range of 10° F to 350° F. They will function at temperatures up to 400° F with reduced life.

SPECIFY OR FOR MANUAL OVER-RIDE LEVER

Non-locking manual over-ride lever is available. It is particularly useful for set-up or when an electrical failure occurs.

SPECIFY IL AFTER VOLTAGE FOR INDICATOR LIGHT

Light indicates when solenoid is energized.

ACCESSORIES

SPECIFY AE FOR ADJUSTABLE EXHAUST

The exhaust screw threads into the solenoid plunger housing, enabling speed adjustment of retracting stroke. (Cannot be used with piped exhaust or silencer.)

SPECIFY PE FOR PIPED EXHAUST

Adapters are available which screw into the solenoid plunger housing, enabling the exhaust to be piped from the unit. (Cannot be used with adjustable exhaust or silencer.)

SPECIFY EA-27 FOR SINTERED SILENCER

Silencers are available which screw into the solenoid plunger housing reducing exhaust noise to an acceptable level. (Cannot be used with adjustable exhaust or piped exhaust.)

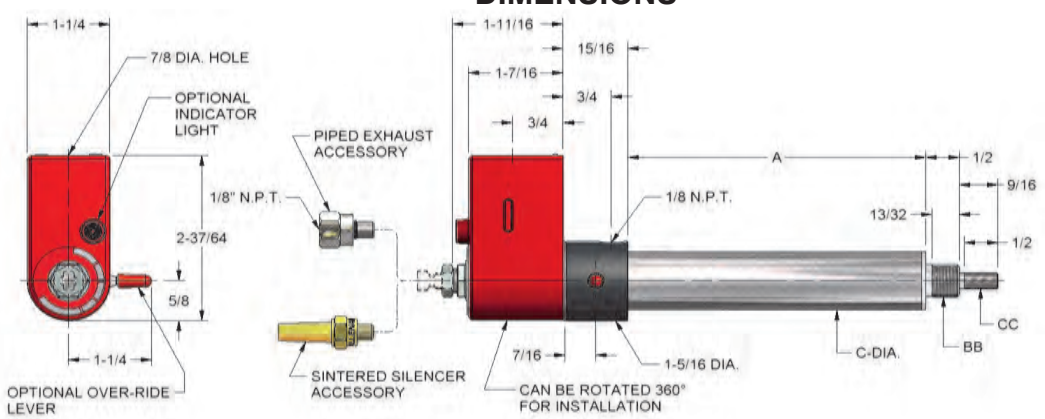
ORDERING PROCEDURE

TYPE	BORE	STROKE	OPTIONS (list alphabetically)	VOLTAGE

EXAMPLE: AVSM 3/4 X 4 - AE - OR - 24/VDC

ORDER MOUNTS SEPARATELY- SHOWN BELOW

DIMENSIONS



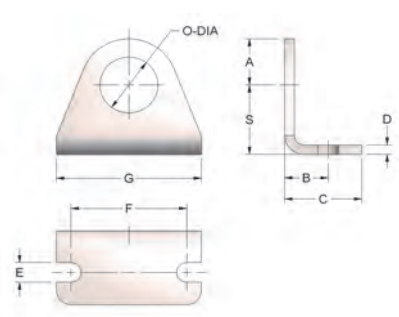
CYL. BORE SIZES	A STROKE 1/2"	1"	1-1/2"	2"	2-1/2"	3"	3-1/2'	4"	C	BB	CC
1/2"	2-3/16	3-1/4	4-5/16	5-3/8	6-7/16	7-1/2	8-9/16	9-5/8	21/32	1/2-20	1/4-28
3/4"	-	2-3/4	-	4-7/16	-	6-1/8	-	7-13/16	29/32	1/2-20	1/4-28
1-1/8"	-	2-15/16	-	4-3/4	-	6-9/16	-	8-3/8	1-9/32	3/4-16	5/16-24

MOUNTING BRACKETS

CYLINDER BORE SIZES	PART NUMBERS * FOOT MOUNTS FRONT	REAR	FLANGE MOUNT	ROD CLEVIS, NUT & PIN
1/2"	AVSM-532	AVSM-532-R	AVSM-529	AVSM-545
3/4"	AVSM-532	AVSM-732-R	AVSM-529	AVSM-545
1-1/8"	AVSM-132	AVSM-132-R	AVSM-129	AVSM-145

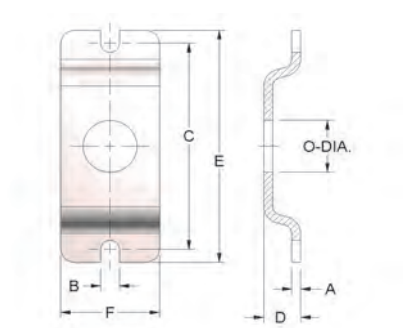
NOTES: FRONT NOSE MOUNTING NUT IS PROVIDED WITH EACH CYLINDER

NOTE: * Foot Mounts will be sold only in pairs, (Front & Rear). Rear Foot Mount slips over tube, ("C" Dia.).



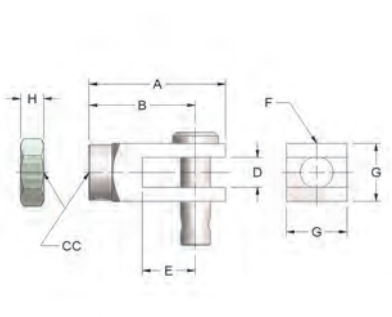
FOOT MOUNT

PART NOS.	A	B	C	D	E	F	G	O	S
AVSM-132	5/8	9/16	1"	1/8	17/64	1-1/2	1-7/8	3/4	15/16
AVSMM-132-R	25/32	9/16	1"	3/32	17/64	1-1/2	1-7/8	1-19/64	15/16
AVSM-532	7/16	7/16	3/4	1/8	13/64	1-1/4	1-5/8	1/2	3/4
AVSM-532-R	19/32	7/16	3/4	3/32	13/64	1-1/4	1-5/8	43/64	3/4
AVSM-732-R	19/32	7/16	3/4	3/32	13/64	1-1/4	1-5/8	59/64	3/4



FLANGE MOUNT

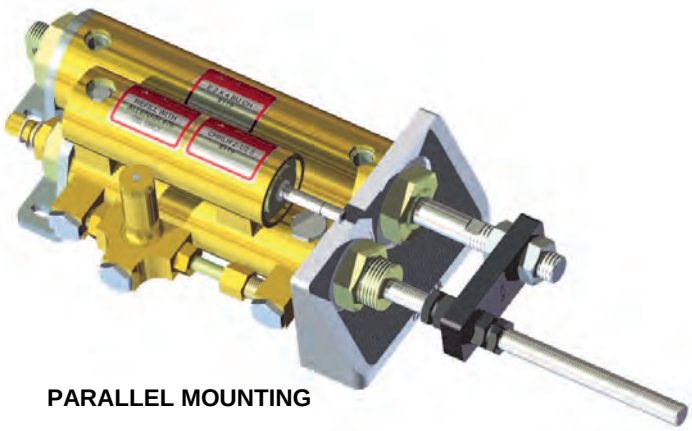
PART NOS.	A	B	C	D	E	F	O
AVSM-529	1/8	13/64	2-1/4	33/64	2-5/8	1"	1/2
AVSM-129	1/8	17/64	3"	33/64	3-3/8	1-3/8	3/4



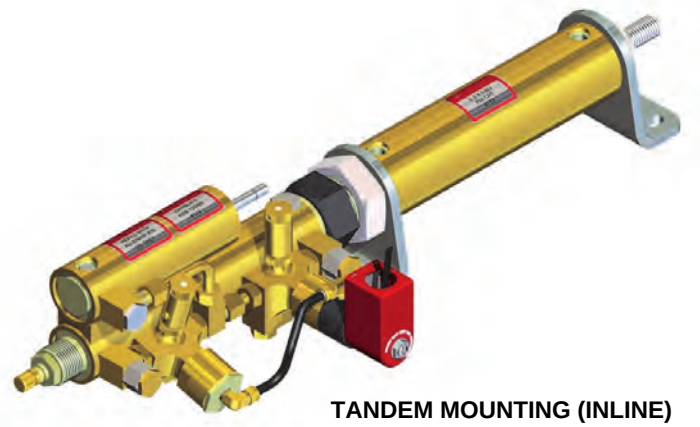
ROD CLEVIS, NUT & PIN

PART NOS.	A	B	CC	D	E	F	G	H
AVSM-545	1-1/8	7/8	1/4-28	1/4	5/8	1/4	1/2	5/32
AVSM-145	1-1/8	7/8	5/16-24	1/4	5/8	1/4	1/2	3/16

FOR SMOOTH, PRECISE, UNIFORM FEED CONTROL



PARALLEL MOUNTING



TANDEM MOUNTING (INLINE)

FEATURES

- 3000 pounds capacity maximum thrust load.
- Feed Control available for Forward, Rearward or Both Directions.
- Feed Rate infinitely variable.
- Optional Stop and Skip Check features.
- Optional Threaded Rod Extensions available for rapid traverse.
- Complete mounting versatility.
- Precision honed brass body, provides longer seal life.
- Wear Strip on piston and extra long bearing in front head for prolonged life.
- Viton Seals to insure long life when heat build-up occurs.

STANDARD STROKES AVAILABLE ARE 2-1/2", 5", 6", 10", 15" & 20". SPECIAL STROKES AVAILABLE.

The Allenair Cyl-Check ® is a self-contained oil filled unit which can be used in any tool or work feeding application, eliminating chatter caused by variations in power thrust and irregular loads, providing smooth, uniform and precise feed control. The unit can be coupled with a Pneumatic Cylinder or other linear motion and provides the flexibility required in many applications, without the costly expense of a completely hydraulic system. The Allenair Cyl-Check ® is a high quality unit carefully designed, produced, assembled, and tested to provide long trouble-free service.

DESCRIPTIONS

PARALLEL MOUNTING

These are individual Cyl-Checks ® which can be mounted parallel with most 1-1/2, 2", 2-1/2", 3" or 4" bore Allenair Cylinders. This is achieved by means of a common front Nose Mount, a Rod Tie Bar and Mounts to secure the back end of each unit.
For Mounting Kits available see Pages 56, 57 and 58.

It must be noted that in parallel mounting, because of the opposing forces, a side-load condition is created on the rods. It is imperative that the rod of the air cylinder be securely fastened and not allowed to deviate from a straight linear motion.

The Cyl-Check ® can also be mounted independently to control other linear motions. **Care should be taken to insure alignment in such cases,** so that the rod of the Cyl-Check ® is not subject to side thrust.

TANDEM MOUNTING:

The Tandem Cyl-Check ® Assembly is an in-line assembly of a Cyl-Check ® and a 2", 2-1/2", 3" or 4" bore Allenair Type "A" or "E" Double Acting Air Cylinder. The major advantage of these units is that the side-load condition between the rods is completely eliminated due to the direct in-line coupling of the Cyl-Check ® and Cylinder Rods.

TYPES

BOTH DIRECTIONS FEED:		
TYPES	**CHB** PARALLEL MOUNTING **CHTB** TANDEM MOUNTING	These units provide fully independent control in both forward and rearward directions. (Note: CHB 2-1/2 **CANNOT** be used with Mounting Kits CHMK-1 or CHMK-2.)
FORWARD DIRECTION FEED:		
TYPES	**CHF** PARALLEL MOUNTING **CHTF** TANDEM MOUNTING	These units provide control in forward direction only, with unrestricted movement when retracting.
REARWARD DIRECTION FEED:		
TYPES	**CHR** PARALLEL MOUNTING **CHTR** TANDEM MOUNTING	These units provide control in rearward direction only, with unrestricted movement when extending.

All of the above types can be supplied with the side tubing and control valve mounted on either the left hand side (specify **LH**) or right hand side (specify **RH**) of the unit, looking from rod end, with the reservoir on top.

OPTIONS

THREADED ROD EXTENSION (RAPID TRAVERSE)

This consists of an increased threaded rod length with stop nuts, which allows the cylinder rod and tie bar to travel unrestricted until the tie bar comes in contact with the stop nuts, where checking action will begin. The correct length of extra threaded rod extension must be identical or longer than the length of unrestricted travel required. Note, however, that the stroke of the Cyl-Check ® need be no longer than the maximum checking length required, but must include the correct threaded rod extension when ordered.

Available on individual and parallel mounted types only. Standard lengths of extra threaded rod extensions are 5", 10", 15", 20" or 30". Select nearest standard extra rod extension and Cyl-Check ® stroke.

SKIP CHECK (RAPID TRAVERSE)

The Skip Check allows by-pass of the control valve permitting rapid traverse and intermittent checking action in the direction of control.

OPERATION:
The Skip Check unit is basically a 2-way Piloted Valve. With either the "Air Operated" or "Solenoid Operated" model, rapid traverse automatically occurs until pilot pressure is applied. On the "Air Operated" model, air is supplied through the use of a separate 3-way valve. On the "Solenoid Operated" model, a 3-way normally open valve is an integral part of the Skip Check unit, and must have a constant pilot pressure supplied to it. With pilot pressure supplied to the top of the solenoid housing, rapid traverse will occur when solenoid is energized. If pilot pressure is supplied to the solenoid adaptor base rapid traverse will occur when solenoid is de-energized. NOTE: Pilot pressure must equal the operating pressure of the air cylinder used. If any other linear force is used, pilot pressure (P.S.I.) must be at least equal to THRUST (LBS.) / 20

Please see Page 61 for pilot pressure port locations and dimensions.

FOR ALLENAIR "TIME-A-VALVE" ® - see page 80. A solid state Electronic Timer, integral with Allenair Solenoid Operators.

SKIP CHECK DESIGNATIONS

TYPES			Air Operated	Solenoid Operated
CHB & CHTB	FORWARD DIRECTION		KAF	KEF
	REARWARD DIRECTION		KAR	KER
	BOTH DIRECTIONS	SINGLE CONTROL	KAB	KEB
		DUAL CONTROL	KAF-KAR	KEF-KER
CHF, CHTF, CHR & CHTR			KA	KE

NOTE: STANDARD VOLTAGES are 12, 24, 120 & 240/60 and 6,12 & 24VDC

OPTIONS (CONTINUED)

STOP CHECK

The Stop Check unit permits stopping the rod movement for any length of time and at any position throughout the controlled stroke. As many stops as desired may be made.

OPERATION

The Stop Check unit is basically a 2-way Piloted Valve. With either the "Air Operated" or "Solenoid Operated" model, no stopping action occurs until pilot pressure is applied. On the "Air Operated" model, air is supplied through the use of a separate 3-way Valve. On the "Solenoid Operated" model, a 3-way normally closed valve is an integral part of the Stop Check unit, and must have a constant pilot pressure supplied to it. With pilot pressure supplied to the solenoid adaptor base, stopping will occur when solenoid is energized. If pilot pressure is supplied by means of a piped exhaust adaptor, to the top of solenoid housing, stopping will occur when solenoid is de-energized. NOTE: Pilot pressure must equal the operating pressure of the Air Cylinder used. If any other linear force is used, pilot pressure (P.S.I.) must be at least equal to $\frac{\text{THRUST (LBS.)}}{20}$

Accuracy of Stop Check strictly depends on the accuracy and repeatability of the valve or switch actuating it. Please see Page 61 for pilot pressure port locations and dimensions.

SPECIFY **TA** AIR OPERATED
TE SOLENOID OPERATED - Standard voltages are 12, 24, 120 & 240/60 and 6, 12 & 24VDC

FOR ALLENAIR "TIME-A-VALVE" ® - see page 80.
A solid state Electronic Timer, integral with Allenair Solenoid Operators.

NOTE: On Types CHB and CHTB the Stop Check will operate in either or both directions using a single control. Dual controls are not available.

SKIP CHECK, STOP CHECK, THREADED ROD EXTENSION:

All these features may be combined on all types of the Allenair Cyl-Check to offer almost unlimited versatility.

MANUAL OVER-RIDE BUTTON

SPECIFY **OR** Non-locking Manual Over-Ride Lever is available on solenoid operated options. Particularly useful for set-up or electrical failure.

EXPLOSION-PROOF SOLENOID OPERATOR

SPECIFY **AAX** The Solenoid Operator is available in an explosion-proof enclosure covering Class I, Groups C & D (NEMA 7) and Class II, Groups E, F & G (NEMA 9). UL listed.

WATERTIGHT SOLENOID OPERATOR

SPECIFY **JIC** Water tight per NEMA 4/IP-56

SPECIAL VOLTAGES

A wide range of non-standard voltages are available. Specify voltage required.

MISCELLANEOUS

FEED RATES (NO WORK LOAD)			
Thrust (pounds)	Max. Feed Rate (In/Min)	Min. Feed Rate (In/Min)	Unrestricted Reverse Stroke
175	210	1-1/2	Approx. 30% Greater Than Max. Feed Rate
300	330	1-1/2	
500	450	1	
700	510	1	
1200	600	1	

ON "CHT" Tandem Assemblies, Allenair 1/4", 3/8" or 1/2" Valves can be supplied, mounted directly to the Cylinder at a modest extra cost.

OIL GUN OG-76

Oil Gun including Fitting Coupler is available.

FITTING COUPLER CH-80

A separate Fitting Coupler is supplied with each Cyl-Check which will fit any Gun having 1/8 male pipe thread.

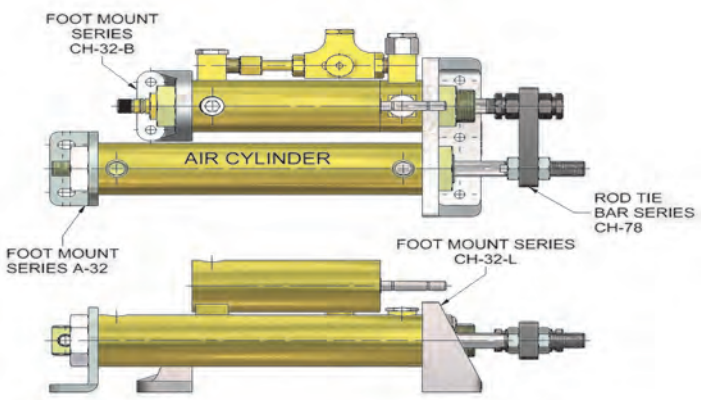
OIL #76

Specially formulated oil is available, in quarts or gallons

WARNING: The Allenair Cyl-Check ® has been designed for use with Allenair Oil #76 only.
The manufacturers accepts no responsibility for malfunction occurring as a result of using improper fluids.

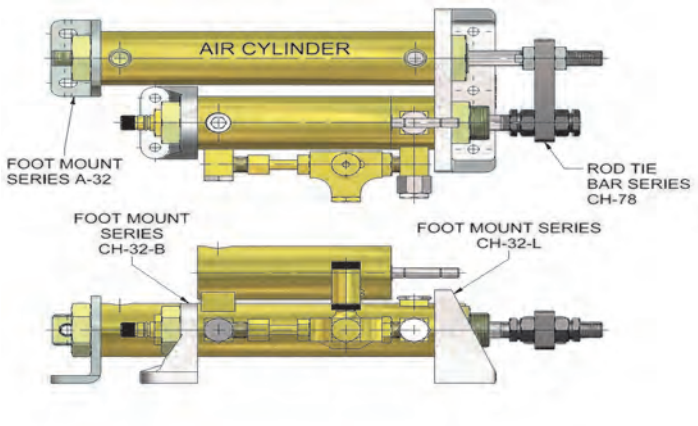
PARALLEL MOUNTING KITS

RIGHT HAND MOUNTING KIT CHMK-1
FOR MODELS CHBRH, CHFRH (Shown) & CHRRH



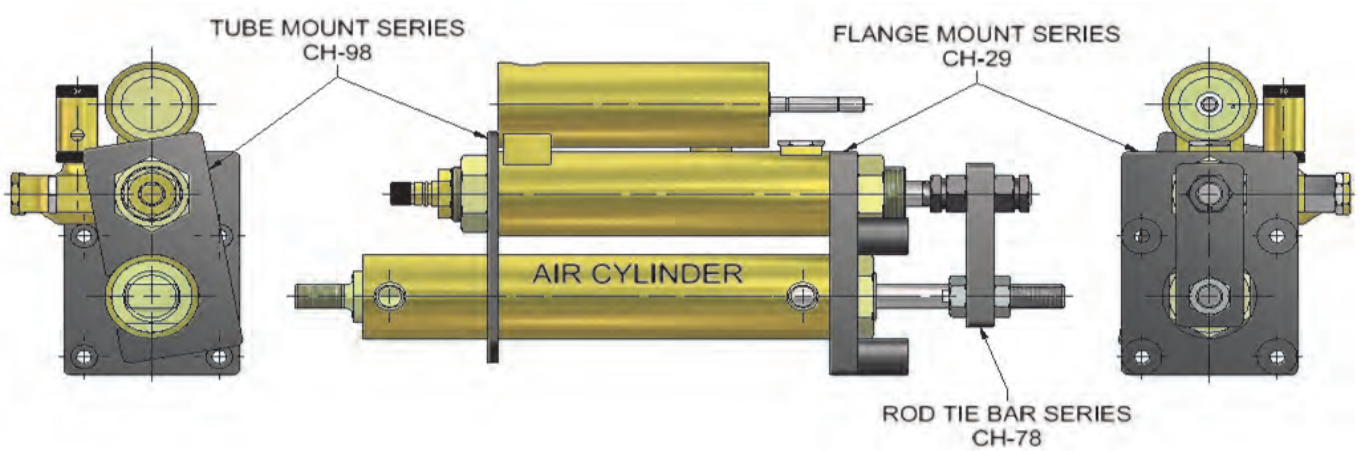
NOTE: CANNOT BE USED WITH CHB-2-1/2'.

LEFT HAND MOUNTING KIT CHMK-2 FOR
MODELS CHBLH, CHFLH (Shown) & CHRLH

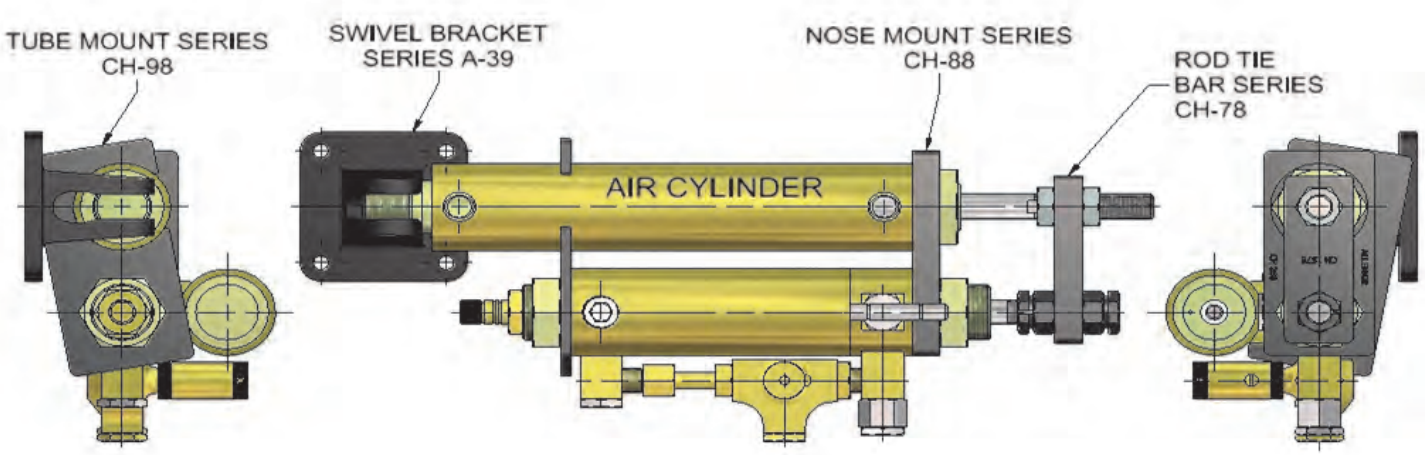


NOTE: CANNOT BE USED WITH CHB-2-1/2'.

FRONT FLANGE MOUNTING KIT CHMK-3 FOR ALL LEFT AND RIGHT HAND TYPES. TYPE CHFRH SHOWN.

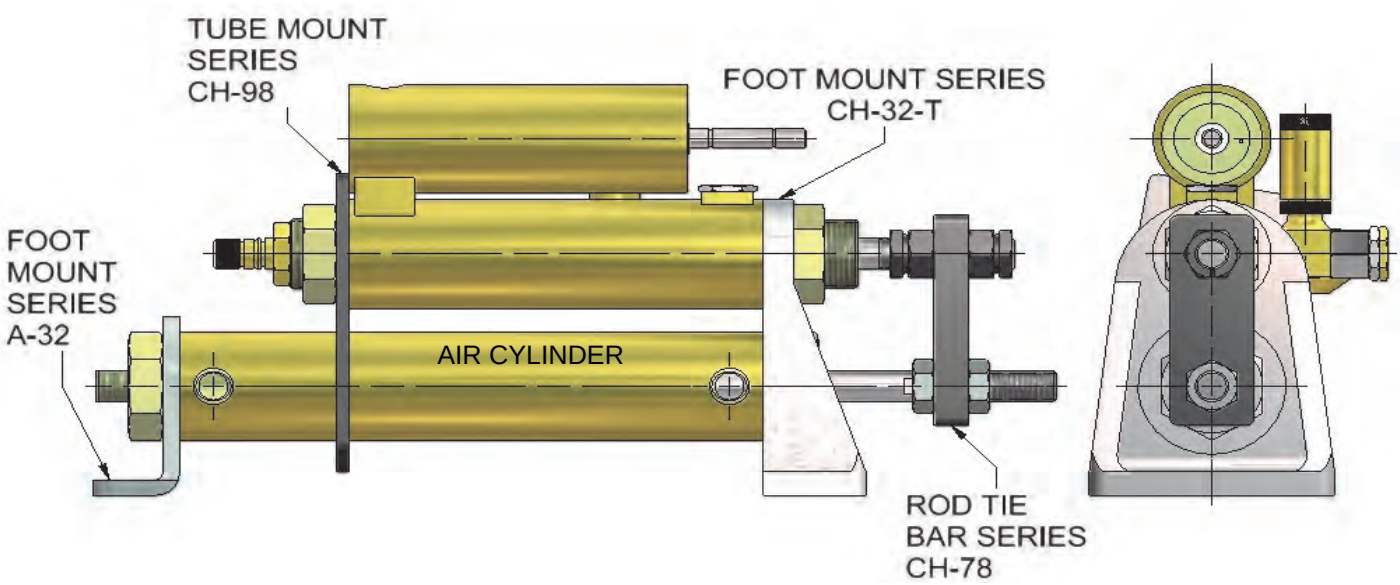


SWIVEL MOUNTING KIT CHMK-4 FOR ALL LEFT AND RIGHT HAND TYPES. TYPE CHFLH SHOWN.

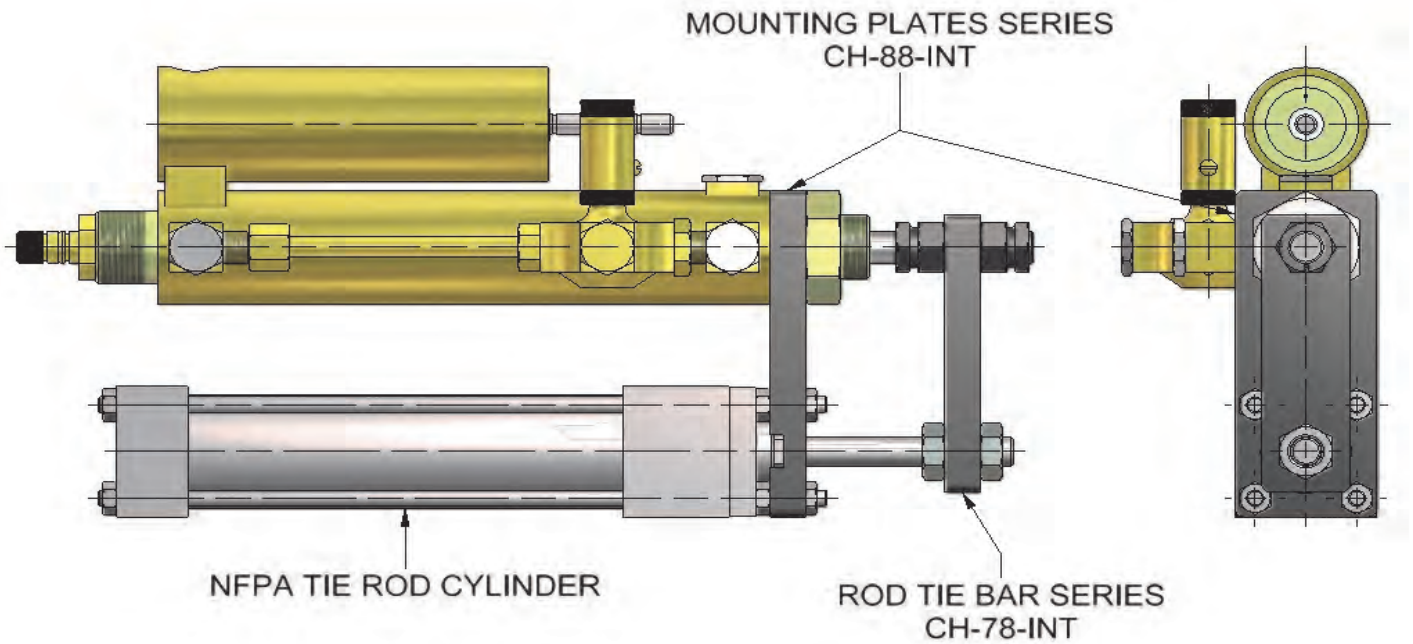


PARALLEL MOUNTING KITS (CONT'D)

TOP MOUNTING KIT CHMK-5
FOR ALL LEFT & RIGHT HAND TYPES. TYPE CHFRH SHOWN.



SQUARE HEAD INTERCHANGEABLE MOUNTING KIT CHMK-6
FOR ALL LEFT & RIGHT HAND TYPES. TYPE CHFRH SHOWN.



MOUNTING KITS FOR CYLINDERS & VALVE-IN-HEAD® CYLINDERS INCLUDE THE FOLLOWING MOUNTS

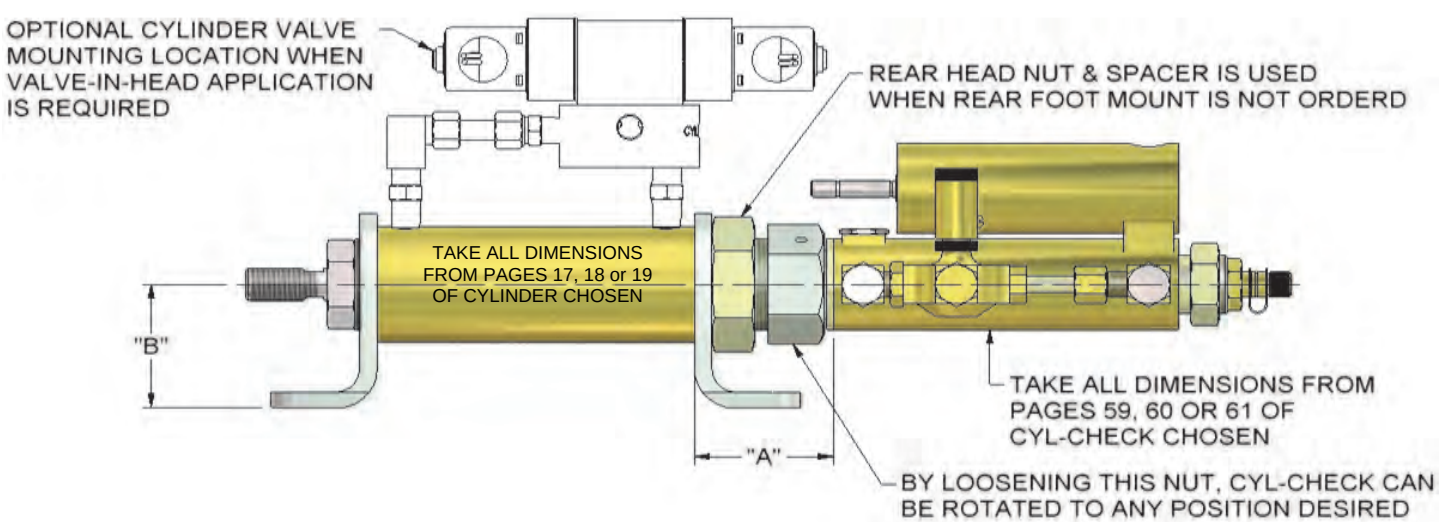
KIT NUMBER	1-1/2" BORE CYL.		2" BORE CYL.		2-1/2" BORE CYL.		3" BORE CYL.		4" BORE CYL.	
	STD. ROD	OS ROD	STD. ROD	OS ROD	STD. ROD	OS ROD	STD. ROD	OS ROD	STD. ROD	OS ROD
CHMK-1	CH-232-R	CH-232-R	CH-232-R	CH-232-R-OS	CH-332-R	CH-332-R-OS	CH-332-R	CH-332-R-OS	CH-432-R	CH-432-R-OS
	CH-232-B	CH-232-B	CH-232-B	CH-232-B	CH-332-B	CH-332-B	CH-332-B	CH-332-B	CH-432-B	CH-432-B
	A-232	**A-232**	**A-232**	**A-232**	**A-332**	**A-332**	**A-332**	**A-332**	**A-432**	**A-432**
	CH-1578	CH-278	CH-278	CH-278-OS	CH-378	CH-378-OS	CH-378	CH-378-OS	CH-478	CH-478-OS
CHMK-2	CH-232-L	CH-232-L	CH-232-L	CH-232-L-OS	CH-332-L	CH-332-L-OS	CH-332-L	CH-332-L-OS	CH-432-L	CH-432-L-OS
	CH-232-B	CH-232-B	CH-232-B	CH-232-B	CH-332-B	CH-332-B	CH-332-B	CH-332-B	CH-432-B	CH-432-B
	A-232	**A-232**	**A-232**	**A-232**	**A-332**	**A-332**	**A-332**	**A-332**	**A-432**	**A-432**
	CH-1578	CH-278	CH-278	CH-278-OS	CH-378	CH-378-OS	CH-378	CH-378-OS	CH-478	CH-478-OS
CHMK-3	CH-229	CH-229	CH-229	CH-229-OS	CH-329	CH-329-OS	CH-329	CH-329-OS	CH-429	CH-429-OS
	CH-1578	CH-278	CH-278	CH-278-OS	CH-378	CH-378-OS	CH-378	CH-378-OS	CH-478	CH-478-OS
	CH-1598	CH-1598	CH-298	CH-298	CH-2598	CH-2598	CH-398	CH-398	CH-498	CH-498
CHMK-4	**A-239**	**A-239**	**A-239**	**A-239**	**A-339**	**A-339**	**A-339**	**A-339**	**A-439**	**A-439**
	CH-1578	CH-278	CH-278	CH-278-OS	CH-378	CH-378-OS	CH-378	CH-378-OS	CH-478	CH-478-OS
	CH-288	CH-288	CH-288	CH-288-OS	CH-388	CH-388-OS	CH-388	CH-388-OS	CH-488	CH-488-OS
	CH-1598	CH-1598	CH-298	CH-298	CH-2598	CH-2598	CH-398	CH-398	CH-498	CH-498
CHMK-5	**A-232**	**A-232**	**A-232**	**A-232**	**A-332**	**A-332**	**A-332**	**A-332**	**CH-432**	**CH-432**
	CH-232-T	CH-232-T	CH-232-T	CH-232-T-OS	CH-332-T	CH-332-T-OS	CH-332-T	CH-332-T-OS	CH-432-T	CH-432-T-OS
	CH-1578	CH-278	CH-278	CH-278-OS	CH-378	CH-378-OS	CH-378	CH-378-OS	CH-478	CH-478-OS
	CH-1598	CH-1598	CH-298	CH-298	CH-2598	CH-2598	CH-398	CH-398	CH-498	CH-498

KIT NO.	1-1/2" BORE CYL	2" BORE CYL.	2-1/2" BORE CYL.	3" BORE CYL.	4" BORE CYL
CHMK-6	CH-1578-INT	CH-278-INT	CH-2578-INT	CH-378-INT	CH-478-INT
	CH-1588-INT	CH-288-INT	CH-2588-INT	CH-388-INT	CH-488-INT

INDEPENDENT MOUNTING

FOOT - CH-232-B **FLANGE** - CH-1529-A

TANDEM MOUNTING & DIMENSIONS

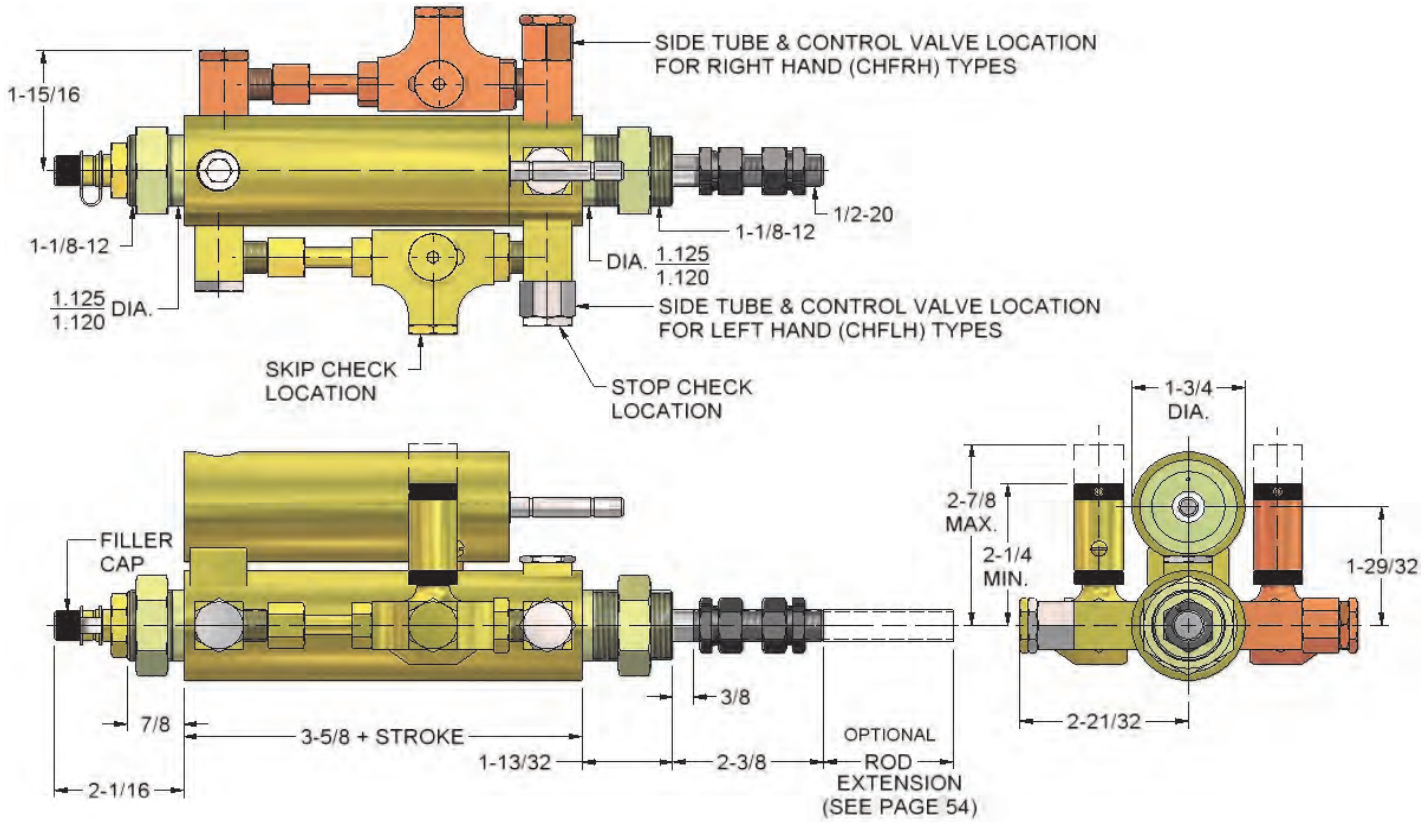


NOTE: For Mount dimensions see page20. For dimensions of CHT-232 & CHT-332 follow A-332 dimensions.

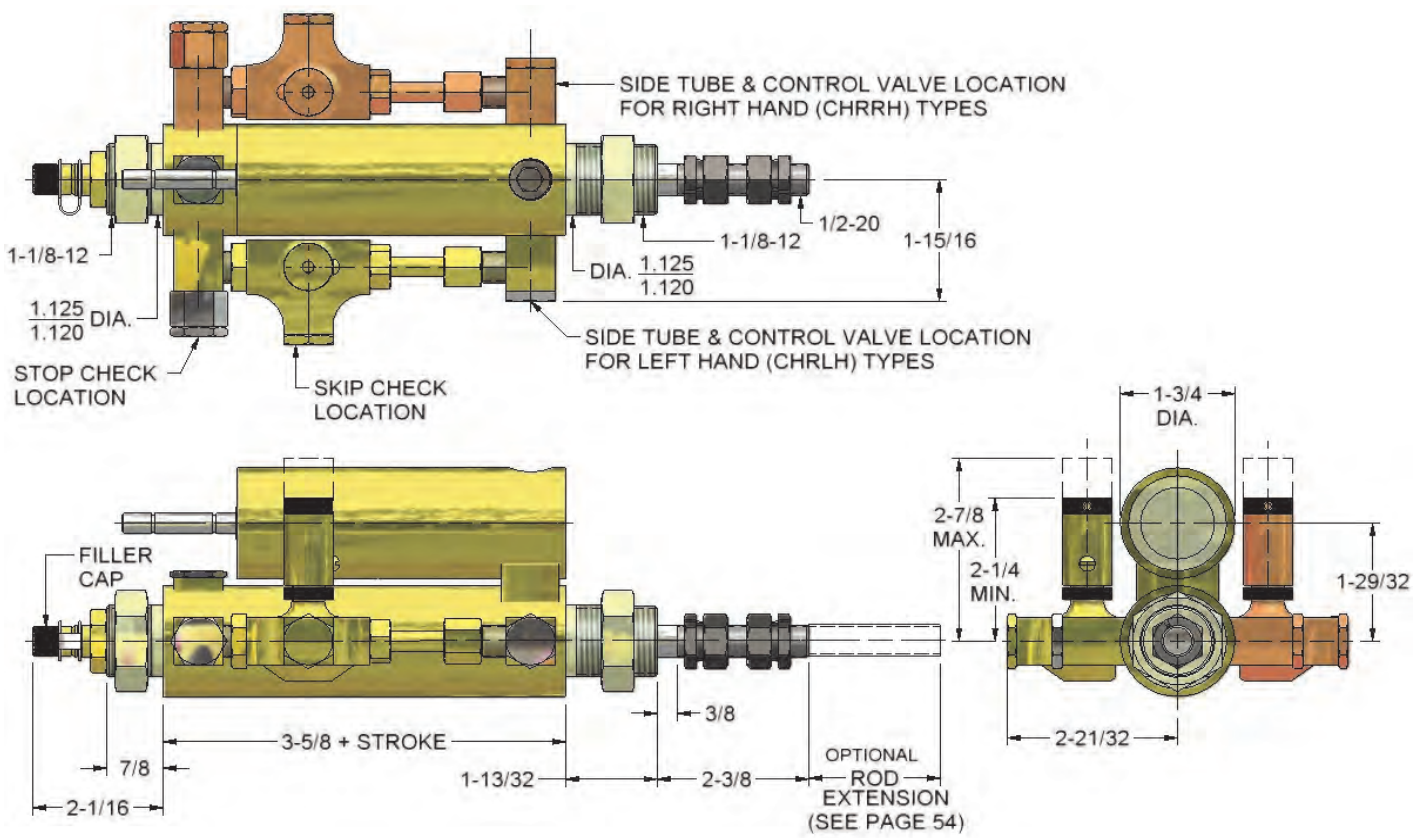
CYL. BORE SIZE	FOOT MOUNT NOS. FRONT STD.	FOOT MOUNT NOS. FRONT O.S.	FOOT MOUNT NOS. REAR OF CYLINDER	FLANGE MOUNT (FOR FRONT END ONLY) STD.	FLANGE MOUNT (FOR FRONT END ONLY) O.S.
2"	CHT-232	A-332	CHT-332	A-229	A-229-OS
2-1/2"	A-332	A-332-OS	CHT-332	A-329	A-329-OS
3"	A-332	A-332-OS	CHT-332	A-329	A-329-OS
4"	A-432	A-432-OS	A-432	A-429	A-429-OS

CYL. BORE SIZE	"A"	"B"
2"	2-15/32	2-3/8
2-1/2"	2-13/32	2-3/8
3"	2-13/32	2-3/8
4"	2-19/32	3-3/16

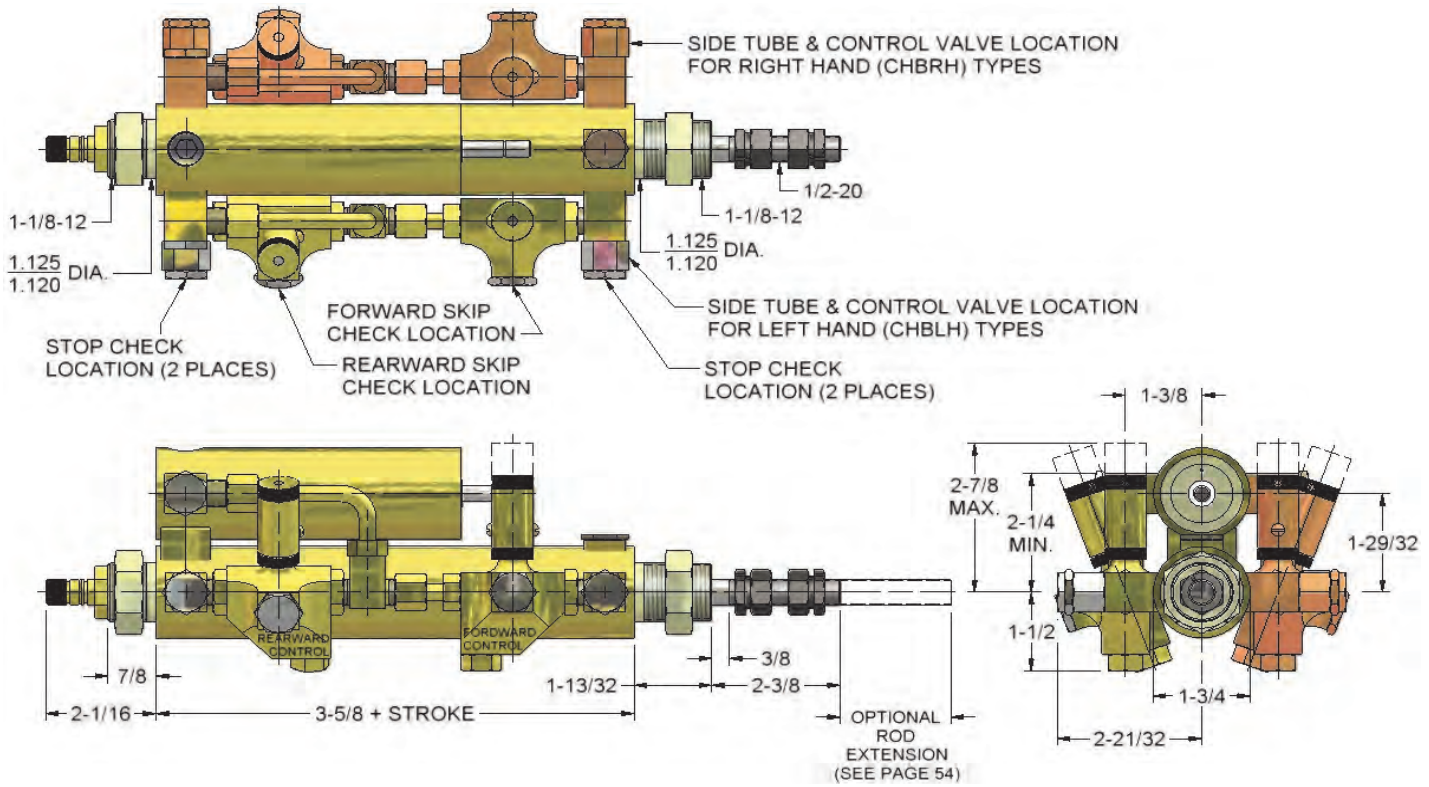
FORWARD DIRECTION TYPE CHF



REARWARD DIRECTION TYPE CHR

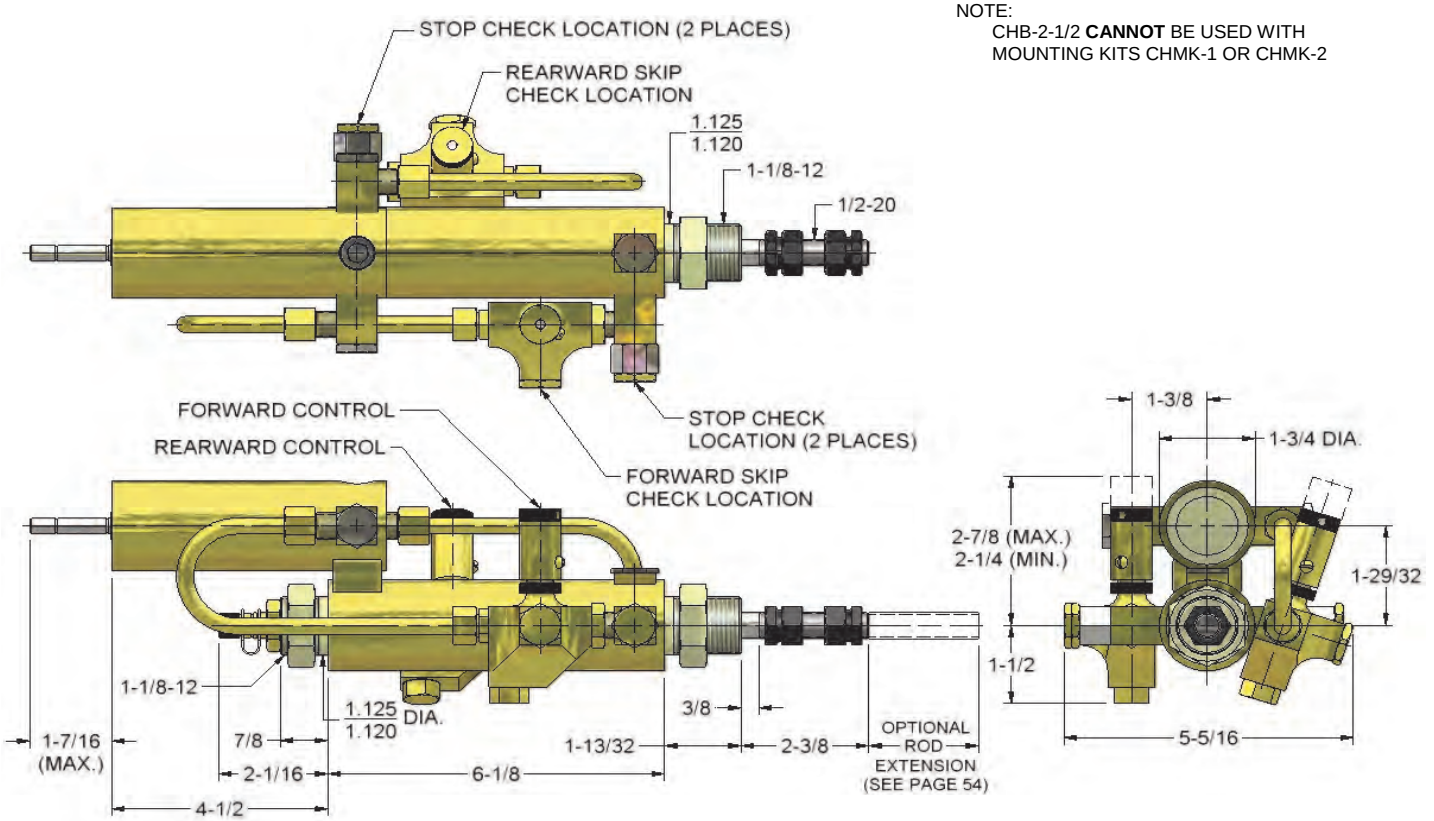


BOTH DIRECTIONS TYPE CHB (5 inch STROKE AND GREATER)

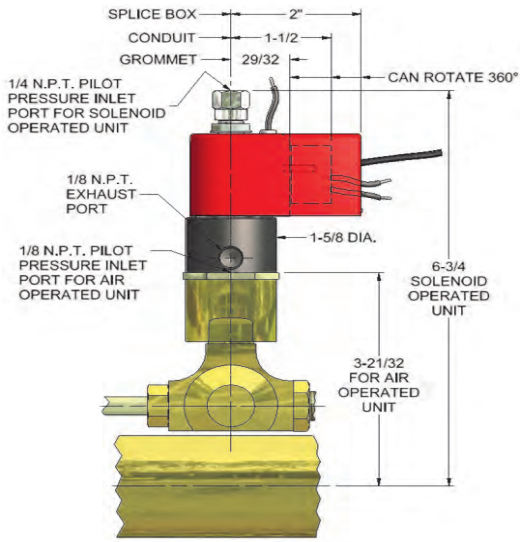


BOTH DIRECTIONS TYPE CHB (2-1/2 inch STROKE ONLY)

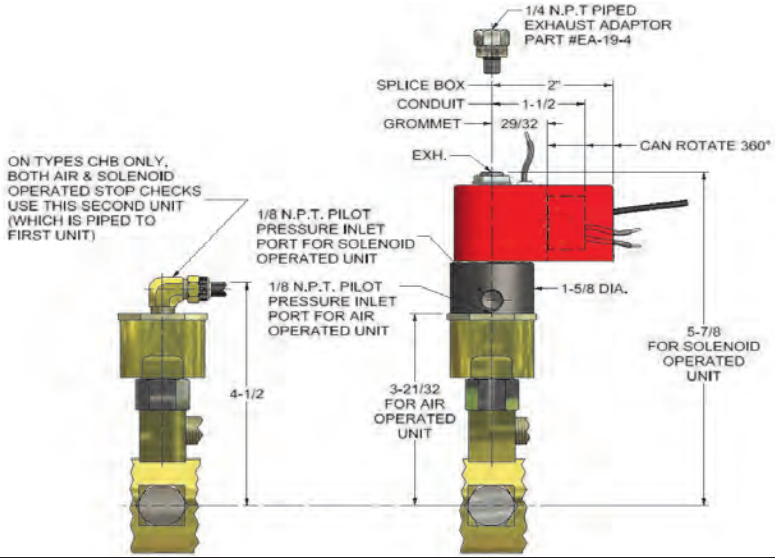
NOTE:
CHB-2-1/2 **CANNOT** BE USED WITH MOUNTING KITS CHMK-1 OR CHMK-2



SKIP CHECK OPTION

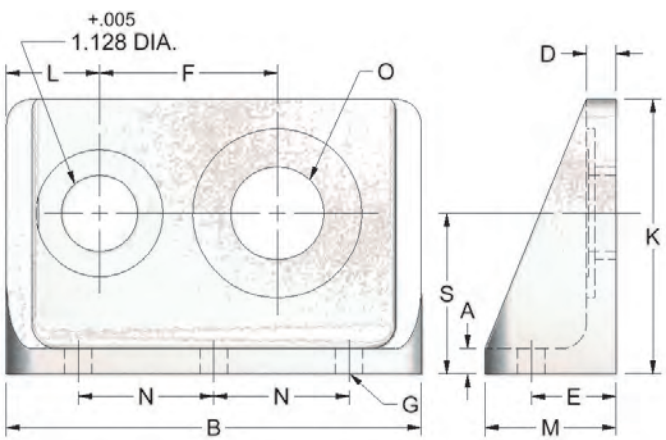


STOP CHECK OPTION

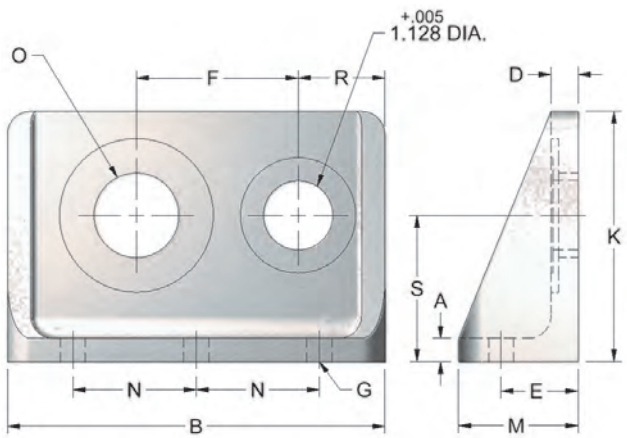


MOUNTING BRACKET DIMENSIONS

FOOT MOUNT SERIES CH-32-L

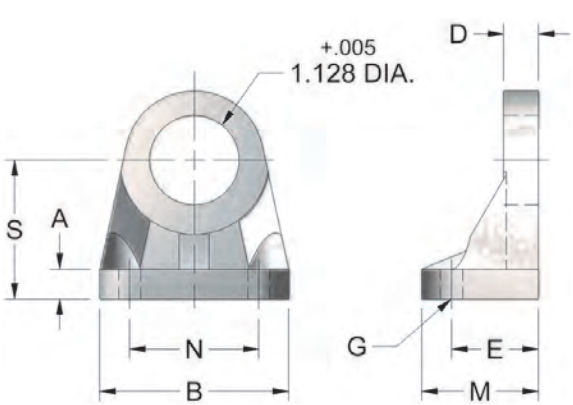


FOOT MOUNT SERIES CH-32-R



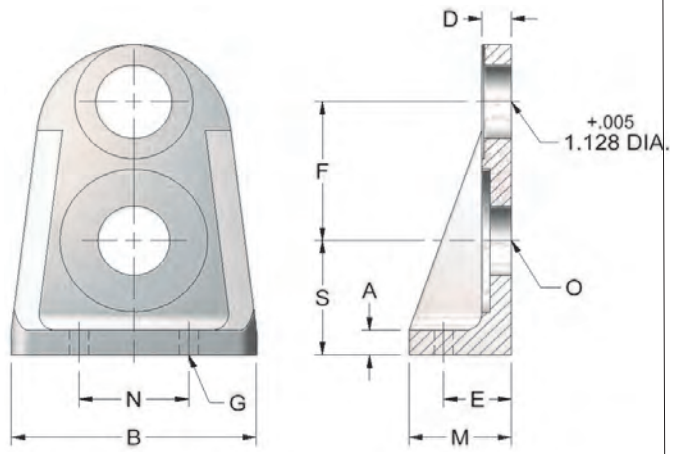
MOUNT NO.	A	B	D	E	F	G	K	L	M	N	O STD.	O OS	R	S
CH-232-L	3/8	5-3/8	7/16	1"	2-1/8	9/32	3"	1-5/8	1-9/16	1-15/16	1-1/16	1-3/8	-	1-3/4
CH-232-R	3/8	5-3/8	7/16	1"	2-1/8	9/32	3"	-	1-9/16	1-15/16	1-1/16	1-3/8	1-5/8	1-3/4
CH-332-L	3/8	6-1/8	7/16	1-1/4	2-5/8	13/32	4-1/8	1-3/8	1-7/8	2"	1-3/8	1-1/2	-	2-3/8
CH-332-R	3/8	6-1/8	7/16	1-1/4	2-5/8	13/32	4-1/8	-	1-7/8	2"	1-3/8	1-1/2	1-3/8	2-3/8
CH-432-L	1/2	7-1/2	9/16	1-3/4	3-3/16	15/32	5-1/2	1-1/2	2-1/2	2-1/2	1-3/4	2-1/4	-	3-3/16
CH-432-R	1/2	7-1/2	9/16	1-3/4	3-3/16	15/32	5-1/2	-	2-1/2	2-1/2	1-3/4	2-1/4	1-1/2	3-3/16

FOOT MOUNT SERIES CH-32-B



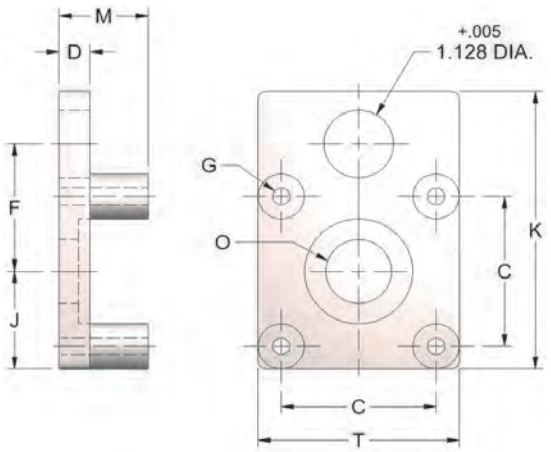
MOUNT NO.	A	B	D	E	G	M	N	S
CH-232-B	3/8	2-3/8	7/16	1-1/8	9/32	1-7/16	1-5/8	1-3/4
CH-332-B	5/16	2-1/2	3/8	7/8	9/32	1-1/4	1-5/8	2-3/8
CH-432-B	5/16	2-1/2	3/8	7/8	9/32	1-1/4	1-5/8	3-3/16

FOOT MOUNT SERIES CH-32-T



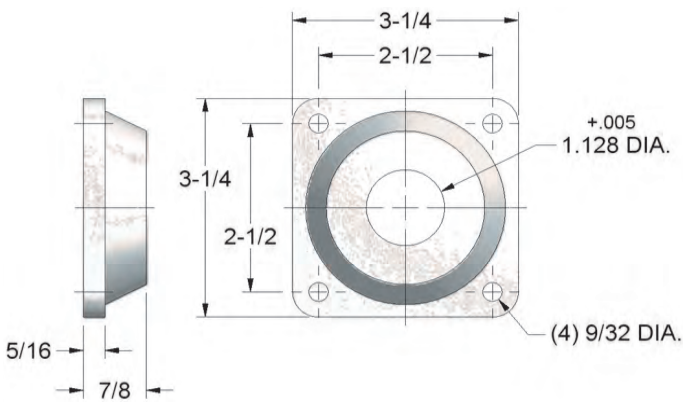
MOUNT NO.	A	B	D	E	F	G	M	N	O STD.	O OS	S
CH-232-T	3/8	3-5/8	7/16	1"	2-1/8	9/32	1-1/2	1-5/8	1-1/16	1-3/8	1-3/4
CH-332-T	3/8	5-1/2	7/16	1/1/4	2-5/8	13/32	1-7/8	3"	1-3/8	1-1/2	2-3/8
CH-432-T	1/2	6-1/2	9/16	1-3/4	3-3/16	15/32	2-1/2	3-1/4	1-3/4	2-1/4	3-3/16

FLANGE MOUNT SERIES CH-29

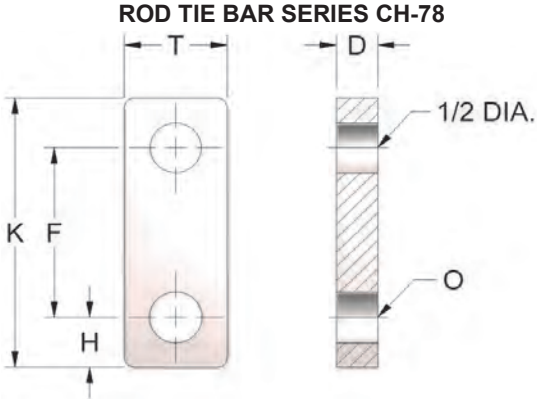


MOUNT NO.	C	D	F	G	J	K	M	O STD.	O OS	T
CH-229	2-1/2	1/2	2-1/8	9/32	1-5/8	4-5/8	1-7/16	1-1/16	1-3/8	3-1/4
CH-329	3-1/8	1/2	2-5/8	13/32	2-1/8	5-5/8	1-7/16	1-3/8	1-1/2	4-1/4
CH-429	4"	5/8	3-3/16	15/32	2-5/8	6-3/4	1-5/8	1-3/4	2-1/4	5-1/4

FLANGE MOUNT SERIES CH-1529-A

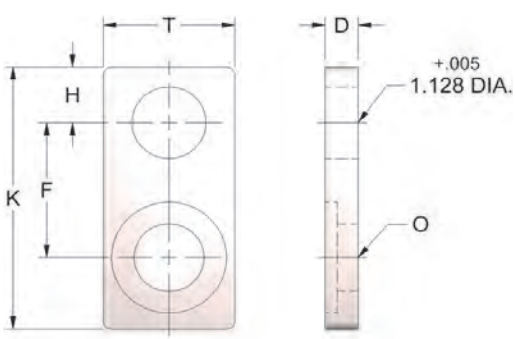


ROD TIE BAR SERIES CH-78



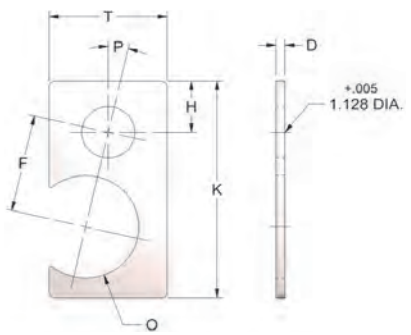
MOUNT NO.	D	F	H	K	O STD.	O OS	T STD.	T OS
CH-1578	1/2	2-1/8	5/8	3-3/8	1/2	5/8	1-1/4	1-1/4
CH-278	1/2	2-1/8	5/8	3-3/8	5/8	3/4	1-1/4	1-1/4
CH-378	5/8	2-5/8	3/4	4"	3/4	1"	1-1/2	2"
CH-478	3/4	3-3/16	1"	4-13/16	1"	1-1/4	2"	2"

NOSE MOUNT SERIES CH-88



MOUNT NO.	D	F	H	K	O STD.	O OS	T STD.	T OS
CH-288	1/2	2-1/8	7/8	4-1/8	1-1/16	1-3/8	2"	2-1/2
CH-388	1/2	2-5/8	7/8	5-1/8	1-3/8	1-1/2	2-1/2	2-1/2
CH-488	5/8	3-3/16	7/8	6-1/4	1-3/4	2-1/4	3-1/2	3-1/2

TUBE MOUNT SERIES CH-98

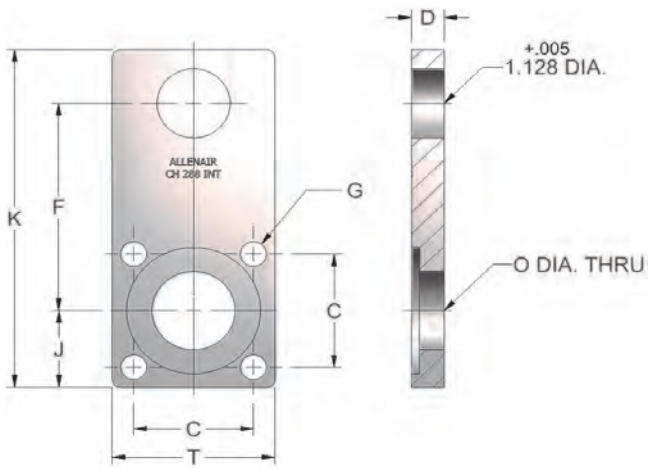


MOUNT NO.	D	F	H	K	O	P	T
CH-1598	3/16	2-1/8	1-1/8	4-1/2	1-3/4	10°	2-1/4
CH-298	3/16	2-1/8	1-1/8	4-3/4	2-1/4	13°	2-1/2
CH-2598	3/16	2-5/8	1-1/8	5-5/8	2-3/4	13°	2-3/4
CH-398	3/16	2-5/8	1-1/8	5-3/4	3-1/4	15°	3-1/2
CH-498	3/16	3-3/16	1-1/8	7-1/8	4-3/8	15°	4"

MOUNTING BRACKET DIMENSIONS FOR INSTALLATION WITH INTERCHANGEABLE SQUARE HEAD CYLINDERS

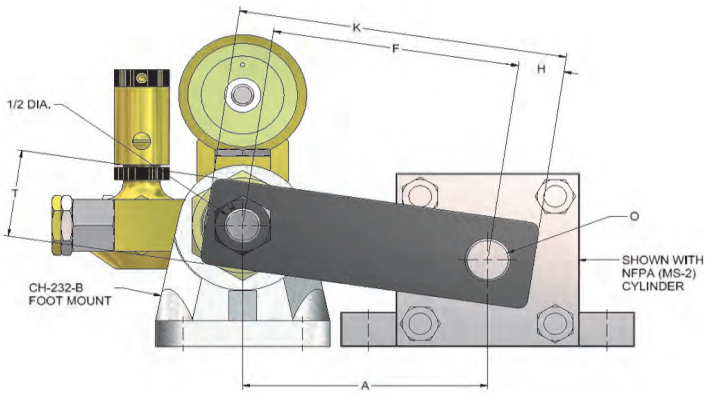
Mounting Plates, Series CH-88-INT, are designed to be fastened to the four Cylinder Tie Rods which extend at the front of the Cylinder. The Rod Tie Bars, Series CH-78-INT, are designed to be used in conjunction with the above Mounting Plates, or when Cyl-Check® is mounted independently as shown below.

MOUNTING PLATE SERIES CH-88-INT



MOUNT NO.	C	D	F	G	J	K	O	T
CH-1588-INT	1.458	1/2"	3-1/8"	11/32"	1"	5"	1-1/4"	2"
CH-288-INT	1.867	1/2"	3-1/8"	13/32"	1-1/4"	5-1/2"	1-1/4"	2-1/2"
CH-2588-INT	2.219	1/2"	3-1/2"	13/32"	1-1/2"	5-7/8"	1-1/2"	3"
CH-338-INT	2.794	5/8"	4-1/8"	15/32"	1-7/8"	6-7/8"	2"	3-3/4"
CH-488-INT	3.339	5/8"	4-1/2"	15/32"	2-1/4"	7-5/8"	2"	4-1/2"

ROD TIE BAR SERIES CH-78-INT



MOUNT NO.	CYL. BORE	A	F	H	K	O	T	THICK-NESS
CH-1578-INT	1-1/2"	3"	3-1/8"	1/2"	4-1/2"	15/32"	1-1/4"	1/2"
CH-278-INT	2"	3-5/16"	3-3/8"	1/2"	4-1/2"	15/32"	1-1/4"	1/2"
CH-2578-INT	2-1/2"	3-1/2"	3-1/2"	1/2"	4-5/8"	15/32"	1-1/4"	5/8"
CH-378-INT	3"	4-1/8"	4-1/8"	3/4"	5-1/2"	25/32"	1-1/2"	5/8"
CH-478-INT	4"	4-1/2"	4-1/2"	3/4"	5-7/8"	25/32"	1-1/2"	5/8"

ORDERING PROCEDURE (PARALLEL MOUNTING)

1) AIR CYLINDER CHOICE

(A) When choosing an Allenair Cylinder, in order to be able to mount the Rod Tie Bar, an additional rod extension and threaded length is required.

By specifying **CH** after the Cylinder nomenclature the Factory will automatically supply the Cylinder with the Dimensions shown in the chart.

CYL BORE SIZE	DIMENSIONS			
	H		J	
	STD	OS	STD	OS
1-1/2"	3-7/16"	3-7/16"	2-1/8"	2-1/8"
2"	3-7/16"	3-7/16"	2-1/8"	2-1/4"
2-1/2"	3-11/16"	3-11/16"	2-11/16"	2-13/16"
3"	3-11/16"	3-11/16"	2-11/16"	2-13/16"
4"	4-1/4"	5-1/4"	3-1/2"	4-7/8"

EXAMPLES: **E-2x4-CH-OS-RG**
EV-3x10-CH-SDS-AAS-120/60

(B) On certain packaged installations involving an Allenair Valve-in-Head ® Cylinder, it will be necessary to increase the stroke of the Cylinder in order for the Inlet Port, Speed Control Screws, and Solenoid Housings to clear the Cyl-Check ®. When such an increase is necessary it will be based on obtaining a minimum difference of 3" between the stroke of the Cylinder and the stroke of the Cyl-Check ® on all bore sizes from 1-1/2" through 3", and 1" on 4" bore Cylinders. The difference, whenever required, will be taken care of automatically by the factory, unless specifically requested otherwise.

ORDERING PROCEDURE (PARALLEL MOUNTING)
(CONTINUED)

2) CYL-CHECK ® CHOICE

TYPE	SIDE TUBING LOCATION (LH or RH)	STROKE Standards are 2-1/2, 5, 6, 10, 15, & 20	OPTIONS (IF REQUIRED)		
			THREADED ROD EXTENSION See Page 54	SKIP CHECK See Page 54	STOP CHECK See page 55

EXAMPLES: CHF-LH - 5 -10 - KE-OR - TA - 120/60
CHB-RH - 5 - 5 - KAF-KAR - TE-OR -120/60

3) MOUNTS OR MOUNTING KIT CHOICE

(A) Separate Mounts can be ordered If desired. See Pages 61, 62 & 63.

EXAMPLES: 1) CH-278-OS, 1) CH-232-L-OS, 1) A-232.
1) CH-378, 1) CH-332-T, 1) A-332.

(B) Complete Mounting Kits can be ordered as shown on Pages 56, 57 & 58.

EXAMPLES: 1) CHMK - 2- 2" - OS
1) CHMK - 5- 3"
Specify Cylinder Bore Size Selected.

ORDERING PROCEDURE (TANDEM MOUNTING)

1) AIR CYLINDER CHOICE

TYPE	BORE	STROKE	OPTIONS

EXAMPLES: E- 2 X 4-OS-RG

2) CYL-CHECK ® CHOICE

TYPE	SIDE TUBING LOCATION (LH or RH)	STROKE Standards are 2-1/2, 5, 6, 10, 15, & 20	OPTIONS (IF REQUIRED)	
			SKIP CHECK See Page 54	STOP CHECK See page 55

EXAMPLES: CHTB LH - 5 - KAF - KAR - TE OR - 120/60

3) COMPLETE ORDERING NOMENCLATURE BY COMBINING 1) & 2)

EXAMPLE: E-2 X 4-OS-RG-CHTBLH-5-KAF-KAR-TE-OR-120/60

4) MOUNTS

Select from Page 58.

5) VALVE MOUNTED

Specify Valve Required.

EXAMPLE: 1) VDST- AAS -1/4 -120/60 MOUNTED

ALLENAIR CLAMPS are rugged, economical units with versatile mounting for such plant applications as clamping, pressing, staking, stamping, bending and positioning. Available in Double Acting and Single Acting (Spring Return) types.
FEATURES: High Tensile Die Cast or Aluminum Bodies, with ground and polished 416 Stainless Steel Piston Rods. The Precision bored bodies add longer life and dependability to the BUNA-N Seals. All 1-1/8" Bore Clamps have sturdy Bronze Rod Bearings, except the AC-1x1, which utilizes the head itself for its bearing. The 2" bore Clamps have low friction, long life Nylon Rod Bearings. 150 P.S.I, maximum pressure. 250°F maximum temperature.

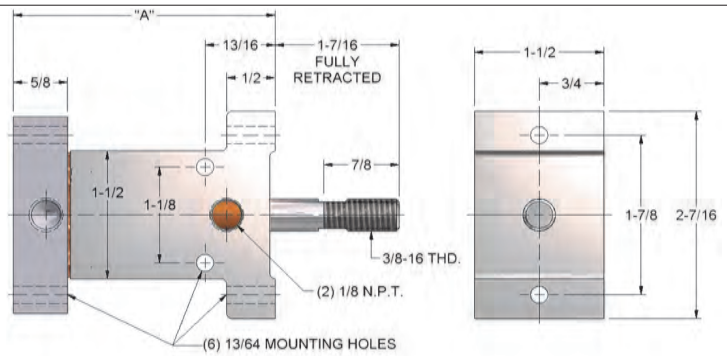
FOR A WIDE RANGE OF ECONOMICAL 3-WAY & 4-WAY 1/8" VALVES SEE PAGES 72, 76 & 86.

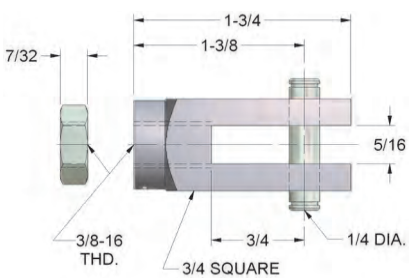
ACD 1-1/8" BORE • DOUBLE ACTING

MODEL	STROKE
ACD-110	1"
ACD-120	2"
ACD-130	3"
ACD-140	4"

ACD - SR 1 1/8" BORE • SPRING RETURN
ACD-SRF: Rod Normally Retracted by Spring.
ACD-SRR: Rod Normally Extended by Spring.
Spring Force: 15 lbs. at rest; 30 lbs. full stroke

MODEL	STROKE
ACD-SRF-105 ACD-SRR-105	1/2"
ACD-SRF-110 ACD-SRR-110	1"
ACD-SRF-115 ACD-SRR-115	1-1/2"
ACD-SRF-120 ACD-SRR-120	2"





A-145
ROD CLEVIS, NUT & PIN

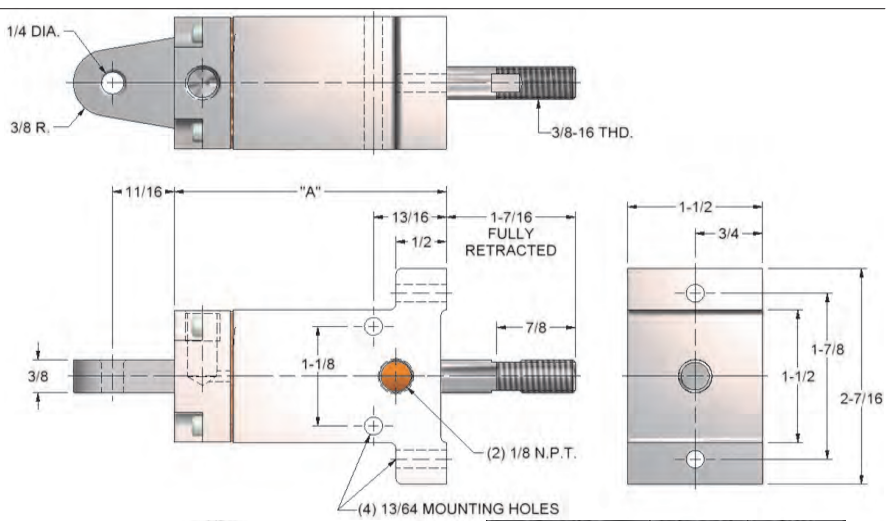
MODEL	STROKE	"A"
ACD-110	1"	3"
ACD-120	2"	4"
ACD-130	3"	5"
ACD-140	4"	6"
ACD-SRF-105 ACD-SRR-105	1/2"	3"
ACD-SRF-110 ACD-SRR-110	1"	4"
ACD-SRF-115 ACD-SRR-115	1-1/2"	5"
ACD-SRF-120 ACD-SRR-120	2"	6"

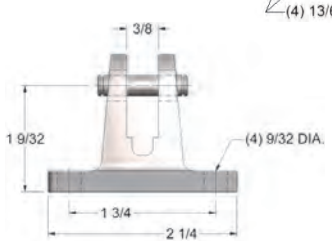
ACDT 1-1/8" BORE • DOUBLE ACTING

MODEL	STROKE
ACDT-110	1"
ACDT-120	2"
ACDT-130	3"
ACDT-140	4"

ACDT - SR 1 1/8" BORE • SPRING RETURN
ACDT-SRF: Rod Normally Retracted by Spring.
ACDT-SRR: Rod Normally Extended by Spring.
Spring Force: 15 lbs. at rest; 30 lbs. full stroke

MODEL	STROKE
ACDT-SRF-105 ACDT-SRR-105	1/2"
ACDT-SRF-110 ACDT-SRR-110	1"
ACDT-SRF-115 ACDT-SRR-115	1-1/2"
ACDT-SRF-120 ACDT-SRR-120	2"



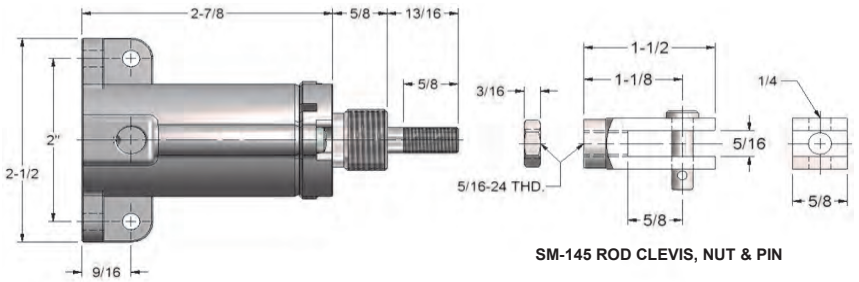


A-139
SWIVEL BRACKET & PIN

MODEL	STROKE	"A"
ACDT-110	1"	3"
ACDT-120	2"	4"
ACDT-130	3"	5"
ACDT-140	4"	6"
ACDT-SRF-105 ACDT-SRR-105	1/2"	3"
ACDT-SRF-110 ACDT-SRR-110	1"	4"
ACDT-SRF-115 ACDT-SRR-115	1-1/2"	5"
ACDT-SRF-120 ACDT-SRR-120	2"	6"

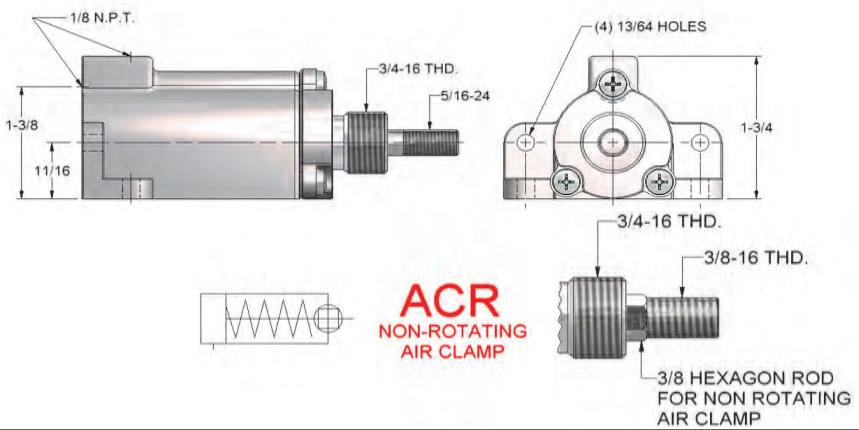
AC-1X1 SPRING RETURN

1-1/8" BORE X 1" STROKE



SM-145 ROD CLEVIS, NUT & PIN

AC-1X1 SPRING RETURN
ACR-1X1 SPRING RETURN NON ROTATING
(AIR PUSH, ROD RETRACTED BY SPRING)
A-129 FLANGE MOUNT
A-132 FOOT MOUNT
SM-145 ROD CLEVIS, NUT & PIN



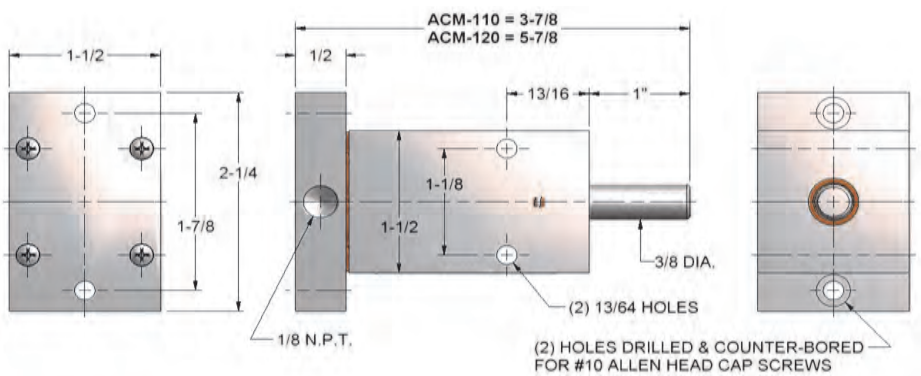
FEATURING:
• 1/8"N.P.T. Porting.
• One Flush Pipe Plug.
Spring Force: 10 lbs. at rest; 20 lbs. full stroke.

NOTE: Mounting Nut is supplied only with Flange or Foot Mount and is included in the price of those Mounts. If otherwise required, order separately as Part A-114.

ACM 1-1/8" BORE SPRING RETURN

Spring Force:
ACM-110 -10 lbs. at rest; 20 lbs. full stroke.
ACM-120 - 5 lbs. at rest; 10 lbs. full stroke.

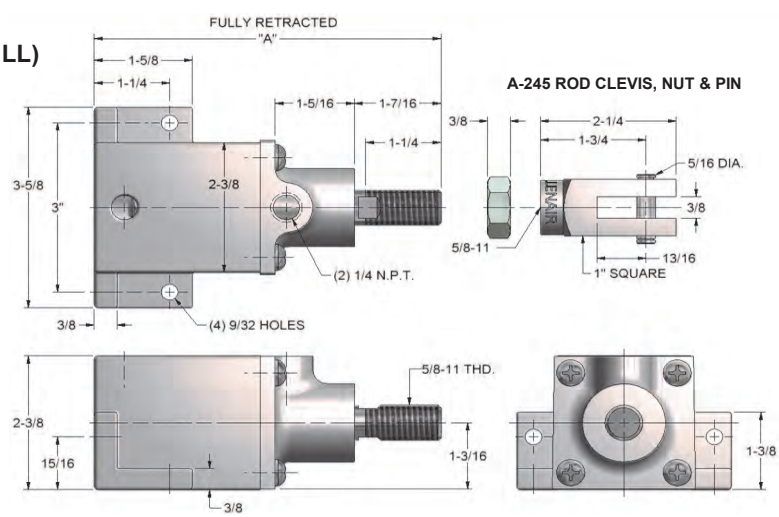
MODEL	STROKE
ACM-110	1"
ACM-120	2"



FEATURING:
• Non-threaded Rod.
• 1/8" N.P.T. Porting.
• Sturdy Bronze Rod Bearings.

ACL 2" BORE • DOUBLE ACTING
ACL - SR 2" BORE • SPRING RETURN (AIR PUSH OR PULL)

MODEL	STROKE	"A"
ACL-205	1/2"	5-3/4
ACL-210	1"	5-3/4
ACL-215	1-1/2"	6-3/4
ACL-220	2"	6-3/4
ACL-225	2-1/2"	7-3/4
ACL-230	3"	7-3/4
ACL-SRF-205 ACL-SRR-205	1/2"	5-3/4
ACL-SRF-210 ACL-SRR-210	1"	6-3/4
ACL-SRF-215 ACL-SRR-215	1-1/2"	7-3/4
ACL-SRF-220 ACL-SRR-220	2"	7-3/4



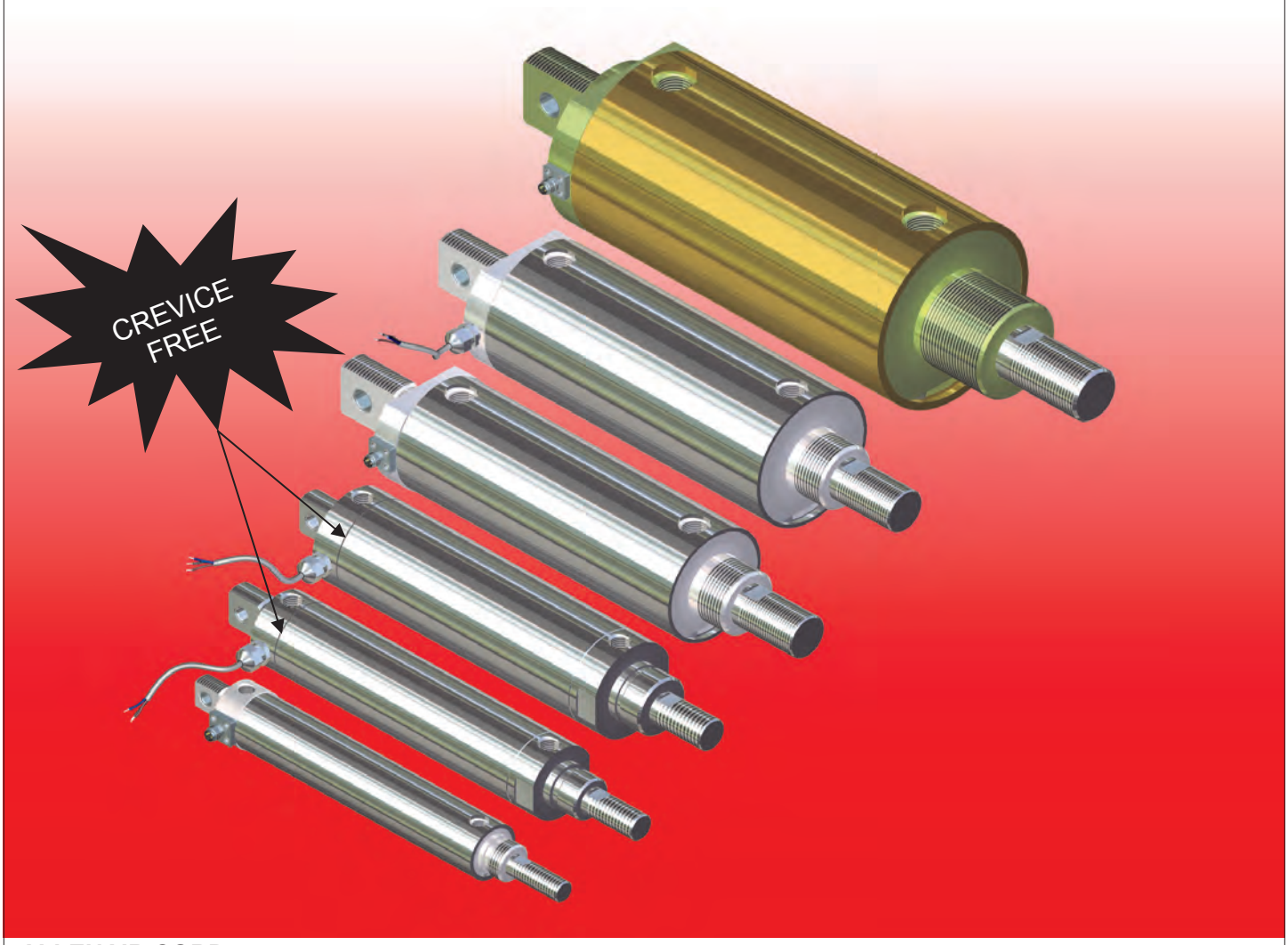
ACL-SRF: Rod Normally Retracted by Spring.
ACL-SRR: Rod Normally Extended by Spring.
Spring Force: "SRF" Models - 10 lbs. at rest; 35 lbs. full stroke. "SRR" Models - 20 lbs. at rest; 40 lbs. full stroke.

ALLENAIR CORP.

POSITION FEEDBACK CYLINDERS

Position Feedback Cylinders

Available for pneumatic (**TDP**) and hydraulic (**TDH**) service. The TD Option gives you an internal Linear Resistive Transducer (**LRT**) for extremely accurate piston position sensing. It is ideal for applications where magnetic Reed and Hall effect switches are not acceptable. The TD Option is the perfect solution for applications where variations in cylinder stroke and speed are required or where an application calls for real time position monitoring. Offered in bore sizes from 1-1/8" to 4" and strokes up to 18". Cylinder comes standard with an IP 67 rated 8mm 3 pin male cable connector.



ALLENAIR CORP. ***QUALITY FIRST...TODAY***

ALLENAIR CORP.
255 EAST SECOND STREET
MINEOLA, NY 11501

Phone: 516-747-5450
Fax: 516-747-5481
E-mail: sales@allenair.com

INDUSTRIES:

- AUTOMOTIVE
- CHEMICAL PROCESSING
- FOOD & BEVERAGE
- INDUSTRIAL AUTOMATION
- MACHINE TOOL
- MARINE
- PETROCHEMICAL
- MEDICAL / PHARMACEUTICAL
- PRINTING & PACKAGING
- SEMICONDUCTOR
- TEXTILE MACHINERY

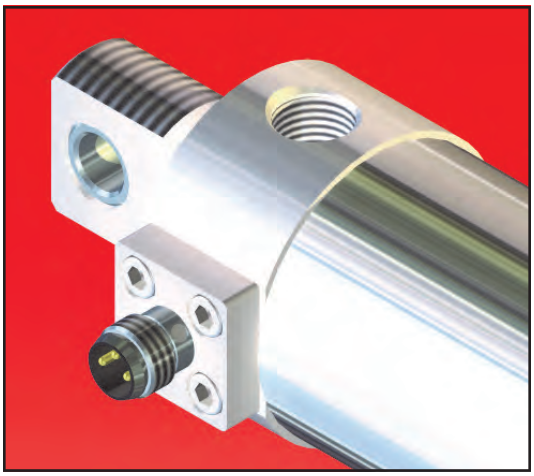
APPLICATIONS:

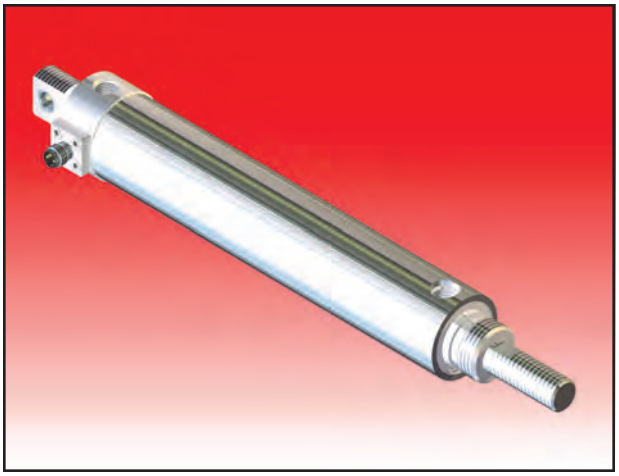
- POSITIONING
- MEASURING
- INSPECTION
- PICK AND PLACE
- WELDING & CUTTING
- PROCESS CONTROL
- ASSEMBLY AUTOMATION
- PACKAGING
- PRINTING
- LABELING
- PART INSERTION
- DISPENSING
- SEALING
- ANALYZERS
- BOTTLING
- ANIMATRONICS
- VERIFICATION
- STACKING
- PROCESS ACCEPTANCE (GO/NO GO)
- MATERIAL TESTING
- ADJUSTABLE ACCELERATION

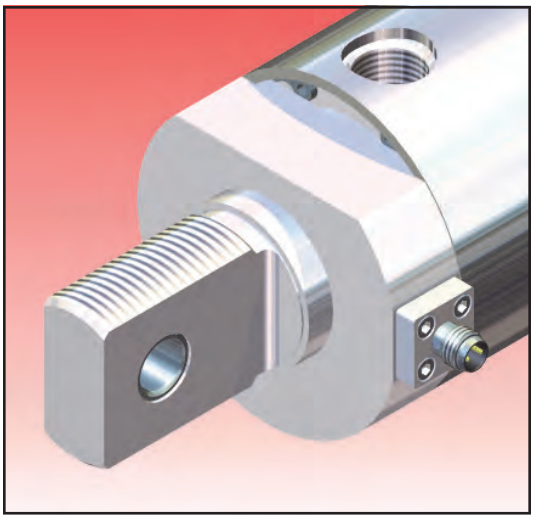
EXTERNAL CONSTRUCTION

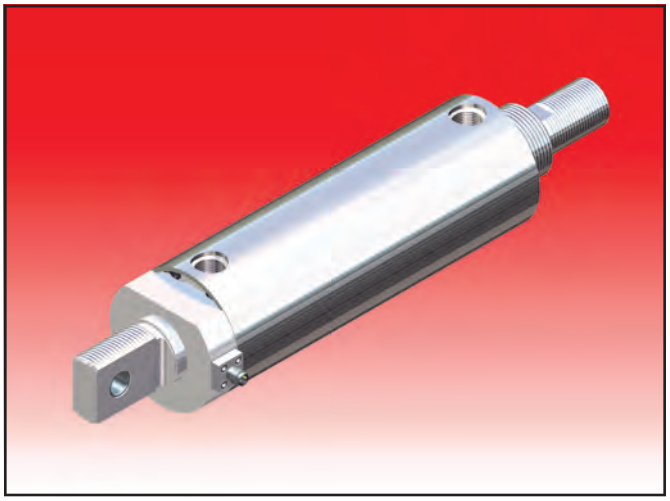
TDH and **TDP** Standard cylinder construction differ depending on bore size, for instance 1-1/8” and 1-1/2” bore sizes have an aluminum threaded rear head with an aluminum snap-ring construction front head the 2” thru 4” bore have our traditional Snap-Ring construction front and rear. All bore sizes utilize stainless steel cylinder tubing with the exception of the 4” bore which use heavy wall brass tubing.

SSTDH and **SSTDP** Cylinders are constructed using 300 series stainless steel







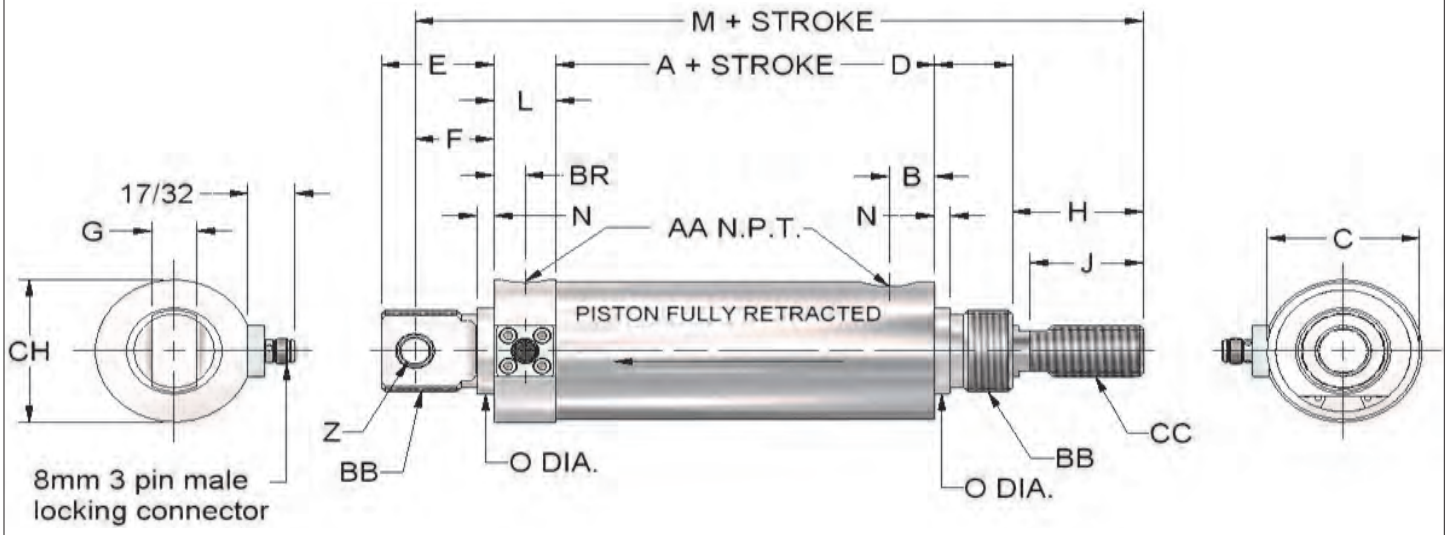


INTERNAL CONSTRUCTION

TDP
Type “C” Cylinders are constructed using low friction “U” Cup Seals and include a wear strip on the piston. These Cylinders are primarily used on low pressure applications and where low minimum breakaway is required.
Pressure Rating: 120 PSI. Pneumatic only.
Breakaway: Approximately 2 to 3 PSI.
Bore Sizes Available: 1-1/8”, 1-1/2”, 2”, 2-1/2”, 3” & 4”.

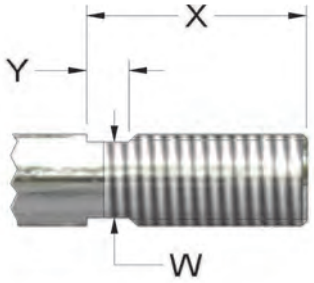
TDH
Cylinders are constructed using Block-Vee Seals and include double rod seals in the front head except on the 1-1/8” Bore. A heavy duty wear strip (bearing) on the piston minimizes friction and piston seal wear, and on side load conditions prevents metal-to-metal contact. .
Pressure Rating: 200 PSI Pneumatic, 500 PSI. Hydraulic.
Breakaway: Approximately 10 to 15 PSI.
Bore Sizes Available: 1-1/8”, 1-1/2”, 2”, 2-1/2”, 3” & 4”.
5” BORE AVAILABLE-Consult Factory for Details.

DIMENSIONS



CYL. BORE SIZES	A	B	BR	C	CH	D	E	F	G	H	J	L	M	N	O		Z
															REAR	FRONT	
1-1 / 8"	2 -13 / 16	3 / 8	11 / 32	♦1 -5 / 16	1 -3 / 8	5 / 8	1	11 / 16	3 / 8	1 -3 / 8	1 -1 / 4	11 / 16	6 -3 / 16	1 / 8	3 / 4	7 / 8	1 / 4
1-1 / 2"	3 -3 / 16	1 / 2	11 / 32	♦1 -11 / 16	1 -3 / 4	7 / 8	1 -1 / 4	7 / 8	1 / 2	1 -7 / 16	1 -1 / 4	11 / 16	7 -1 / 16	3 / 16	1 -1 / 16	1 -1 / 16	5 / 16
2"	3 -5 / 8	1 / 2	1 -3 / 16	♦2 -3 / 16	2 -3 / 16	7 / 8	1 -1 / 4	7 / 8	1 / 2	1 -7 / 16	1 -1 / 4	11 / 16	7 -1 / 2	3 / 16	1 -1 / 16	1 -3 / 8	5 / 16
2-1 / 2"	3 -7 / 8	9 / 16	1 -1 / 4	♦2 -11 / 16	2 -11 / 16	1	2	1 -3 / 8	5 / 8	1 -11 / 16	1 -1 / 2	11 / 16	8 -5 / 8	1 / 4	1 -3 / 8	1 -1 / 2	7 / 16
3"	3 -7 / 8	9 / 16	1 -1 / 4	♦3 -3 / 16	3 -3 / 16	1	2	1 -3 / 8	5 / 8	1 -11 / 16	1 -1 / 2	11 / 16	8 -5 / 8	1 / 4	1 -3 / 8	1 -1 / 2	7 / 16
4"	4 -7 / 8	13 / 16	1 -13 / 16	4 -3 / 8	4 -3 / 8	1 -7 / 8	2 -3 / 16	1 -7 / 16	3 / 4	2 -1 / 4	1 -7 / 8	11 / 16	11 -7 / 16	3 / 16	1 -3 / 4	2 -1 / 4	1 / 2

♦ Add 1/16" to the "C" dimension for "BU" option.
"BU" option = Brass Tube.

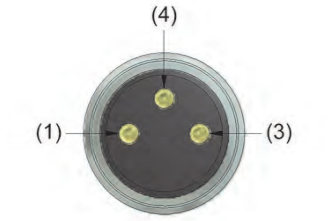


CYL. BORE SIZES	AA	BB		CC	ROD DIA.
		REAR	FRONT		
1 -1/8"	1 / 8	3 / 4 -16	7 / 8 - 14	1 / 2-13	1 / 2
1 -1/2"	1 / 4	1-14	1- 14	5 / 8 - 11	5 / 8
2"	1 / 4	1- 14	1 - 3 / 8 - 12	3 / 4 - 10	3 / 4
2 -1/2"	3 / 8	1 - 3/8 -12	1 - 1 / 2 - 12	1- 14	1"
3"	3 / 8	1 - 3/8 -12	1 - 1 / 2 - 12	1- 14	1"
4"	1 / 2	1 - 3 / 4 - 12	2 - 1 / 4 - 12	1 - 1 / 4 - 12	1 - 1 / 4

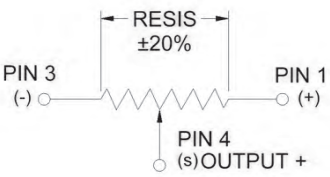
ROD DIA.	W	X	Y
1 / 2"	7 / 16	1 - 5 / 16	5 / 16
5 / 8"	1 / 2	1 - 3 / 8	5 / 16
3 / 4"	5 / 8	1 - 3 / 8	5 / 16
1"	7 / 8	1 - 5 / 8	5 / 16
1 - 1 / 4"	1 - 1 / 8	2 - 1 / 8	3 / 8

TRANSDUCER SPECIFICATIONS

RESISTANCE	1.0k OHM / INCH ± 20%
LINEARITY	± 1.0%, INDEPENDENT
VOLTAGE & CURRENT	2 mA MAX CURRENT, 28 VDC MAX VOLTAGE
RESOLUTION	INFINITE
STANDARD STROKES	1, 2, 3, 4, 6, 8, 9, 12 & 18 INCHES
POWER DISSIPATION	1 WATT / INCH @ 25°C
PRESSURE	TDP 120 P.S.I. PNEUMATIC, TDH 200 P.S.I PNEUMATIC, 500 P.S.I. HYDRAULIC
OPERATING TEMP.	-25°C TO +100°C (FOR HIGHER TEMP. CONSULT FACTORY)
STROKE VELOCITY	**TDH** 20" SEC **TDP** 50" SEC



SCHEMATIC



MODIFICATIONS

Listed below are some of the many modifications Allenair makes daily

RODS:

Non– Standard Rod Extensions (“H” Dim.)	Length Required
Non– Standard Rod Threads (“CC” Dim.)	Size Required
Non– Standard Rod Threads Length (“J” Dim.)	Length Required
Female Threads In Rod	Size & Depth Required
No Threads On Rod	No Threads
Complete Special Rod End	Print Required
Non-Standard Wrench Flats	Location & Size
Special Rod Material	Material Required

LISTED BELOW ARE SPECIAL CODES WE USE WHENEVER A SPECIAL CYLINDER IS ORDERED.
NOT ALL CODES ARE LISTED, ONLY THE MOST COMMON

CODE	DESCRIPTION	CODE	DESCRIPTION
B	Sp. ”H” Dimension	K	Female Thread In Rod
C	Sp. ”J” Dimension	KR	Sp. ”H” & ”J” For K & KR Kits
CB	Sp. ”H” & ”J” Dimension	L	303 Stainless Steel Rod
CH	Sp. ”H” & ”J” For Cyl-Check	LF	Low Friction
D	Sp. ”CC” Dimension	NT	No Tang
FC	Front Cushion	Q	Stainless Steel Snap Ring
FS	Fail Safe W / Spring In Front	RG	Sp. ”H” For Rod Guide
G	No Rod Threads	RM	Magnet On Piston
HTP	Fluorocarbon Seals	WR	Rod Wiper

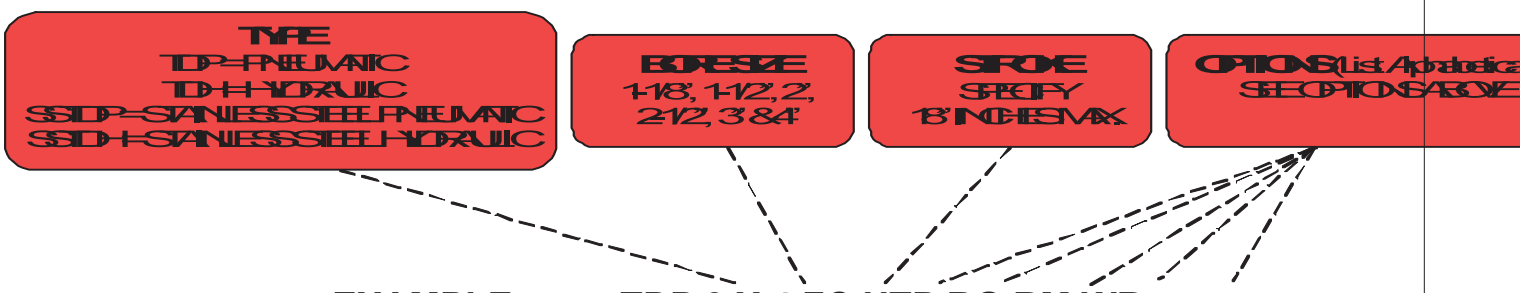
SPECIAL DESIGNS

Many times Allenair is able to change the standard configuration of our cylinders to meet customer’s special requirements.

MATERIALS

Special seal compounds are available for a wide range of fluid media and environments. Tubes, Heads and Rods can be supplied plated, Hardcoated or in other materials. Please consult factory for special requirement.

ORDERING PROCEDURE



EXAMPLE: TDP 3 X 4 FC HTP RG RM WR

THREADED CONSTRUCTION

ALL STAINLESS STEEL THREADED CONSTRUCTION
Crevice Free Feed Back Cylinders

Allenair Corp. has added the **(TDP)** and **(TDH)** Option to their crevice free stainless steel threaded construction pneumatic and hydraulic cylinder line. The TD Option with this cylinder construction gives you the perfect cylinder for those demanding applications in harsh environments. The cylinder has an internal Linear Resistive Transducer (**LRT**) for extremely accurate piston position sensing. It is ideal for applications where traditional magnetic position sensing is not acceptable. Additionally, the TD Option is a solution for applications where variations in cylinder stroke and speed are required or where an application calls for continuous position monitoring. Offered in bore sizes from 1-1/8" to 2" and strokes to 18", the cylinders are designed for 120 P.S.I Pneumatic and 500 P.S.I Hydraulic. Cylinder comes standard with an IP 67 rated 8mm 3 pin male cable connector..

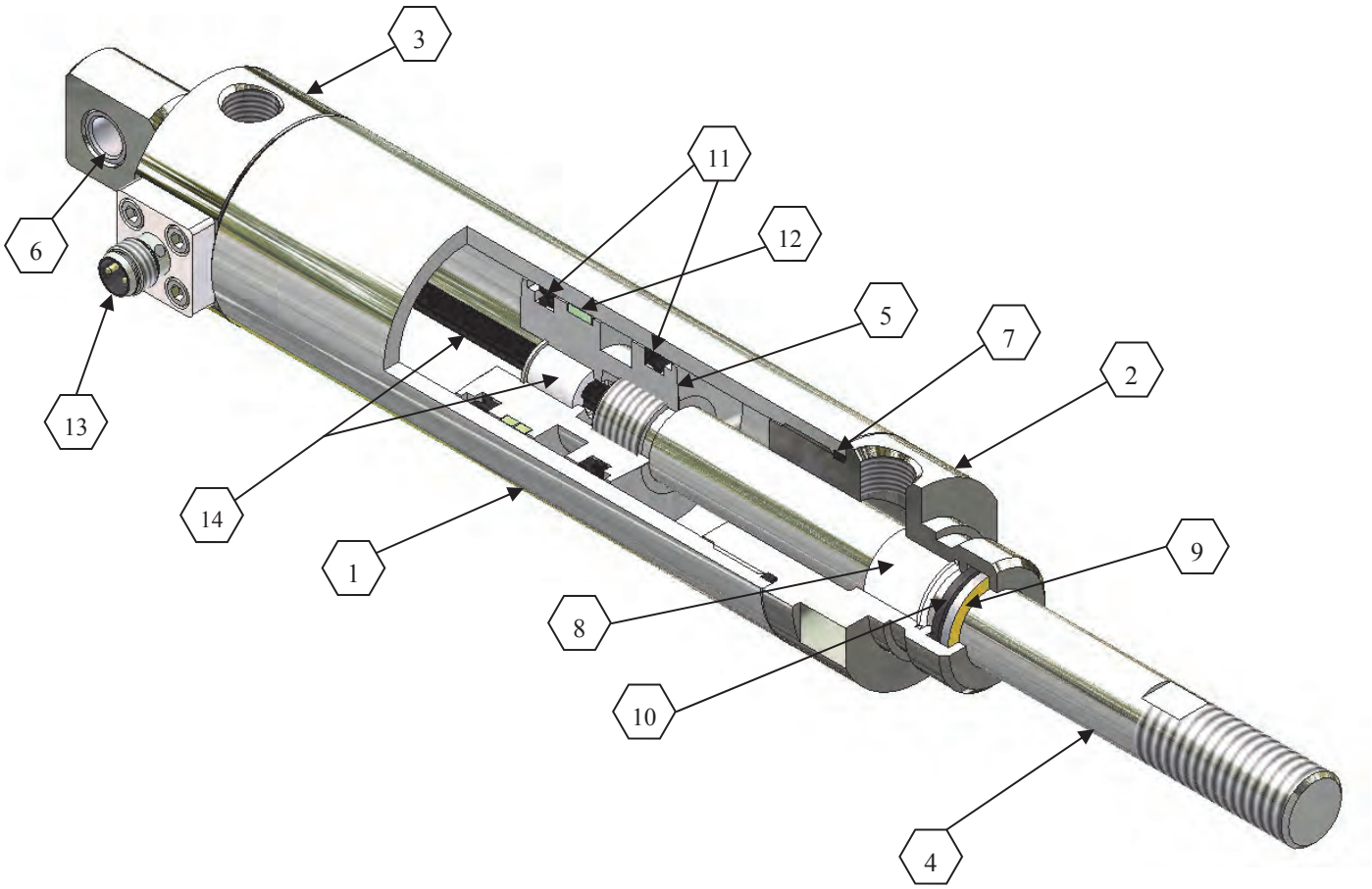
WASH DOWN SERVICE

ALLENAIR CORP. ***QUALITY FIRST...TODAY***

ALLENAIR CORP.
255 EAST SECOND STREET
MINEOLA, NY 11501

Phone: 516-747-5450
Fax: 516-747-5481
E-mail: sales@allenair.com

STANDARD FEATURES



1) TUBE: 300 SERIES STAINLESS STEEL TUBING PRECISION HONED "I.D." (16 MICRO OR BETTER) FOR SIZE AND ROUNDNESS WITH CROSS HATCH LUBRICANT RETAINING PATTERN. POLISHED "O.D." TO A 32 MICRO OR BETTER FOR EASE OF CLEANING.

2) FRONT HEAD: 300 SERIES STAINLESS STEEL IS IDEAL FOR WASHDOWN APPLICATIONS. DESIGNED SPECIFICALLY TO REDUCE POINTS OF CONTAMINATION.

3) REAR HEAD: 300 SERIES STAINLESS STEEL IS IDEAL FOR WASHDOWN APPLICATIONS. DESIGNED SPECIFICALLY TO REDUCE POINTS OF CONTAMINATION.

4) PISTON ROD: GROUND AND POLISHED 303 OR 316 STAINLESS STEEL FOR MAXIMUM CORROSION RESISTANCE.

5) PISTON: PRECISION MACHINED FROM 303 STAINLESS STEEL FOR INTERNAL CORROSION RESISTANCE, THEY ARE ASSEMBLED WITH "BLOCK-VEE" OR “U” CUP SEALS. A HEAVY-DUTY WEAR STRIP (BEARING) ON THE PISTON MINIMIZES FRICTION AND SEAL WEAR, AND ON SIDE LOAD CONDITIONS PREVENTS METAL-TO-METAL CONTACT.

6) PIVOT BUSHING: LONG LIFE REPLACEABLE PIVOT BUSHING

7) HEAD SEALS: NITRILE MATERIAL IS STANDARD. HIGH TEMPERATURE AND OTHER MATERIALS ARE AVAILABLE.

8) ROD BEARING: SNAP-IN BEARING CONSTRUCTION MATERIAL IS NYLON FOR EXTREMELY LOW FRICTION AND EXTENDED LIFE.

9) LEATHER BACK-UP RING: AIDS IN KEEPING ROD CLEAN. "WR" TEFLON WIPER RING ALSO AVAILABLE.

10) NITRILE ROD SEAL: NITRILE MATERIAL IS STANDARD. HIGH TEMPERATURE AND OTHER MATERIALS ARE AVAILABLE.

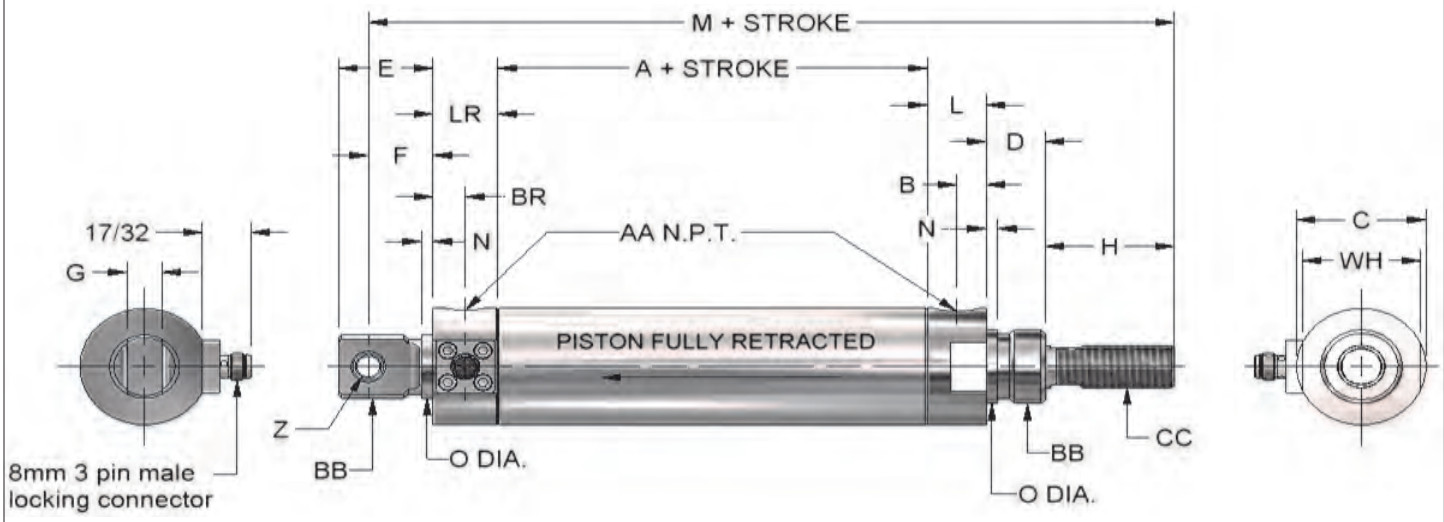
11) PISTON SEALS: "BLOCK-VEE" OR “U CUP ARE PRESSURE ACTIVATED AND WEAR COMPENSATING. NITRILE MATERIAL IS STANDARD. HIGH TEMPERATURE AND OTHER MATERIALS ARE AVAILABLE.

12) WEAR STRIP (BEARING):MINIMIZES FRICTION AND SEAL WEAR. AND ON SIDE LOAD CONDITIONS PREVENTS METAL-TO-METAL CONTACT.

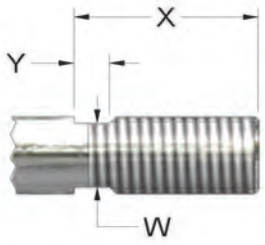
13) 8mm 3 PIN MALE CONNECTOR FOR USE WITH STANDARD CORDSETS. DEGREE OF PROTECTION (IP67).

14) REPLACEABLE TRANSDUCER PROBE AND WIPER BLOCK ASS'Y.

DIMENSIONS



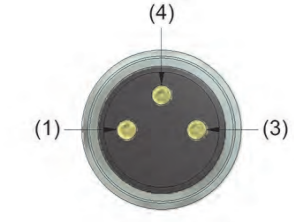
CYL BORE SIZES	A	B	BR	C	D	E	F	G	H	J	L	LR	M	N	O		Z
															REAR	FRONT	
1-1 / 8"	2 -9 / 16	5 / 16	11 / 32	1 -5 / 16	5 / 8	1"	11 / 16	3 / 8	1 -3 / 8	1 -1 / 4	5 / 8	11 / 16	6 -9 / 16	1 / 8	3 / 4	7 / 8	1 / 4
1-1 / 2"	2 -3 / 4	11 / 32	11 / 32	1 -11 / 16	7 / 8	1 -1 / 4	7 / 8	1 / 2	1 -7 / 16	1 -1 / 4	11 / 16	11 / 16	7 -5 / 16	3 / 16	1 -1 / 16	1 -1 / 16	5 / 16
2"	2 -3 / 4	11 / 32	11 / 32	2 -3 / 16	7 / 8	1 -1 / 4	7 / 8	1 / 2	1 -7 / 16	1 -1 / 4	11 / 16	11 / 16	7 -5 / 16	3 / 16	1 -1 / 16	1 -3 / 8	5 / 16



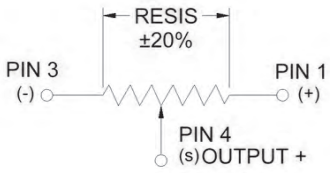
CYL. BORE SIZES	AA	BB		CC	ROD DIA.	WH
		REAR	FRONT			
1 -1/8"	1 / 8	3 / 4 - 16	7 / 8 - 14	1 / 2-13	1 / 2	1 -1 / 4
1 -1/2"	1 / 4	1" - 14	1" - 14	5 / 8 - 11	5 / 8	1 -5 / 8
2"	1 / 4	1" - 14	1 - 3 / 8 - 12	3 / 4 - 10	3 / 4	2 -1 / 8

ROD DIA.	W	X	Y
1 / 2"	7 / 16	1 - 5 / 16	5 / 16
5 / 8"	1 / 2	1 - 3 / 8	5 / 16
3 / 4"	5 / 8	1 - 3 / 8	5 / 16

TRANSDUCER SPECIFICATIONS	
RESISTANCE	1.0k OHM / INCH ± 20%
LINEARITY	± 1.0%, INDEPENDENT
VOLTAGE & CURRENT	2 mA MAX CURRENT, 28 VDC MAX VOLTAGE
RESOLUTION	INFINITE
STANDARD STROKES	1, 2, 3, 4, 6, 8, 9, 12 & 18 INCHES
POWER DISSIPATION	1 WATT / INCH @ 25°C
PRESSURE	TDP 120 P.S.I. PNEUMATIC, TDH 200 P.S.I PNEUMATIC, 500 P.S.I. HYDRAULIC
OPERATING TEMP.	-25°C TO +100°C (FOR HIGHER TEMP. CONSULT FACTORY)
STROKE VELOCITY	**TDH** 20" SEC **TDP** 50" SEC



SCHEMATIC



MODIFICATIONS

Listed below are some of the many modifications Allenair makes daily

RODS:

Non– Standard Rod Extensions (“H” Dim.)	Length Required
Non– Standard Rod Threads (“CC” Dim.)	Size Required
Non– Standard Rod Threads Length (“J” Dim.)	Length Required
Female Threads In Rod	Size & Depth Required
No Threads On Rod	No Threads
Complete Special Rod End	Print Required
Non-Standard Wrench Flats	Location & Size
Special Rod Material	Material Required

LISTED BELOW ARE SPECIAL CODES WE USE WHENEVER A SPECIAL CYLINDER IS ORDERED.
NOT ALL CODES ARE LISTED, ONLY THE MOST COMMON

CODE	DESCRIPTION	CODE	DESCRIPTION
B	Sp. ”H” Dimension	K	Female Thread In Rod
C	Sp. ”J” Dimension	KR	Sp. ”H” & ”J” For K & KR Kits
CB	Sp. ”H” & ”J” Dimension	L	303 Stainless Steel Rod
CH	Sp. ”H” & ”J” For Cyl-Check	LF	Low Friction
D	Sp. ”CC” Dimension	NT	No Tang
FC	Front Cushion	Q	Stainless Steel Snap Ring
FS	Fail Safe W / Spring In Front	RG	Sp. ”H” For Rod Guide
G	No Rod Threads	RM	Magnet On Piston
HTP	Fluorocarbon Seals	WR	Rod Wiper

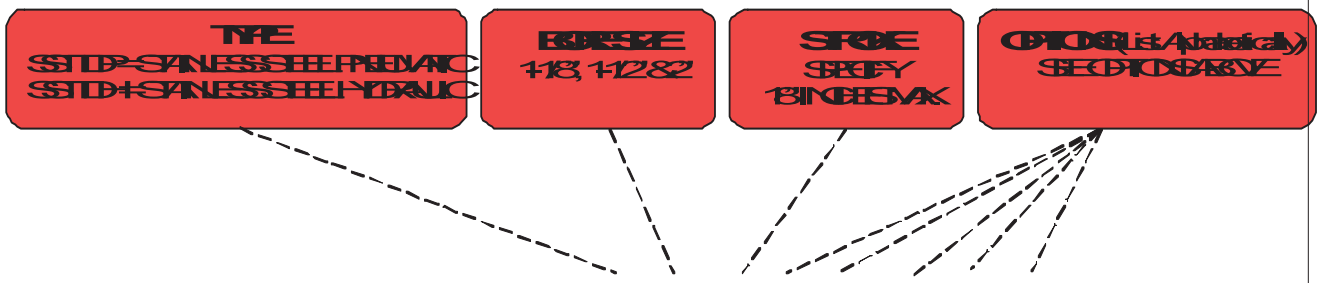
SPECIAL DESIGNS

Many times Allenair is able to change the standard configuration of our cylinders to meet customer’s special requirements.

MATERIALS

Special seal compounds are available for a wide range of fluid media and environments. Tubes, Heads and Rods can be supplied plated, Hardcoated or in other materials. Please consult factory for special requirement.

ORDERING PROCEDURE



EXAMPLE: SSTTDP 2 X 4 FC HTP RG RM WR

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