Kaye MacDonald
A Division of Cashco, Inc.

TECHNICAL BULLETIN **DA4-TB** 11-10

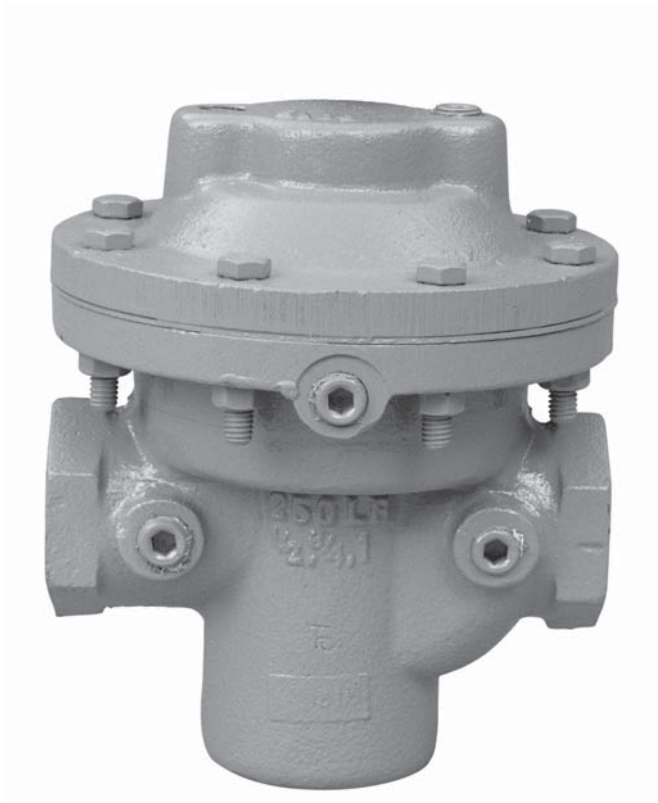
CE

MODEL DA4

(FORMERLY DA3 AND DA4)

DO-ALL SERIES IV

PRESSURE REDUCING REGULATOR
PRESSURE LOADED DIAPHRAGM:
1/2" – 4" (DN15 – 100)



MODEL DA4

ModeL DA4 is high performance, pressure loaded diaphragm-type, flow-to-open pressure reducing regulator. Design includes an internal pressure balancing piston-cylinder that provides high flow capacity and high pressure drop capability. The internal trim design allows the same basic unit to cover a broad range of pressure settings. Performance meets or exceeds that of competitive pressure loaded or pilot-operated designs. The DA4 regulator is applied primarily in clean gaseous service, but may also be applied as a liquid or steam valve. Truly a "DO-ALL" pressure regulator.

APPLICATIONS

"DO-ALL" concept allows application of all types of clean fluids. Designed primarily as a gaseous service valve, can be applied in liquid service applications where excessive cavitation or flashing is absent. Excellent for atmospheric industrial gases – GN_2, GOX, Ar, He, H_2, CO_2 – as well as a natural gas regulator. Used as a utilities – air, oil, water, steam – regulator. Corrosive and non-corrosive chemical services – gas or liquid – are possible with broad materials range.

⚠ CAUTION

In the event of diaphrahm failure, the process fluid will mix with the loading fluid.

FEATURES

Versatile: Four basic materials and multiple trim material combinations to select from. Multiple methods of pressure loading.

Tight Shutoff: Multiple composition materials provide Class IV or VI inboard leakage rates. Designed as a soft-seated valve.

Capacity: Highest in the industry. Allows smaller body sizes than competitors in majority of applications.

Droop: Highly accurate outlet pressure control, due to absence of range spring in design, provides almost zero "droop effect".

Pressure Drop: One of highest in the industry when coupled with high flow capacity.

Trim Design: "DO-ALL" trim design provides FTO and pressure balancing for higher inlet pressure. Results in unmatched sensitivity and stability. Internals are cage-contained within easily removable quick change trim.

Rangeability: Basic valve gives outstanding rangeability due to close tolerances, balanced trim, and a broad range of elastomeric and metallic diaphragms and soft seats. Can be as high as 2000:1.

Heavy-Duty Guiding: Both top and bottom guided to maintain stability and increased diaphragm life.

Failure Position: Fails closed on loss of loading pressure. Fails open on loss of P_1 or P_2 pressures with loading pressure yet applied.

ISO 9001 Registered

STANDARD / GENERAL SPECIFICATIONS

Body / Cover Dome Materials

CI/CI	BRZ/BRZ	SST/CI
CS/CI	BRZ/CI	SST/CS
CS/CS	HC/CS *	SST/SST
	HC/SST *	

* Through 2" (DN50) body size only.

CI = Cast Iron CS = Carbon Steel BRZ = Bronze
SST = Stainless Steel HC = Hastelloy "C"

Body Sizes

1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3", 4".
(DN15, 20, 25, 32, 40, 50, 65, 80, 100)

End Connections

Standard: Female NPT (screwed).
ASME Flanged: 125#, 150#, 250#, 300#, 600#;
DIN Flanged: PN16, PN25, PN40;
(Integral Flanged Body unless listed under Opt.-30)
Opt-31 British Standard Pipe Threads.
Opt-32 Schedule 80 Extended Pipe Nipples.
Opt-41 Extension Tube Ends.

Max. Useable Cv

Body Size		Diaphragm		Body Size		Diaphragm	
in	(DN)	Comp. Cv	Metal Cv	in	(DN)	Comp. Cv	Metal Cv
1/2"	(15)	3.6	3.5	2"	(50)	54	12
3/4"	(20)	7.2	3.5	2-1/2"	(65)	81	N/A
1"	(25)	13.5	3.5	3"	(80)	108	N/A
1-1/4"	(32)	20.7	6.0	4"	(100)	198	N/A
1-1/2"	(40)	27.0	6.0				

See Table DAG-6 for Wide Open Cv Limits.
N/A = Not Available.
METRIC CONVERSION FACTOR: Cv / 1.16 = kv

Inlet Pressure Range

Operating: 10–3705 psig (.69 – 255 Barg).
See Tables DAG-1A through -1H for design P vs. T limits.

Outlet Pressure Range

1/2" – 1" (DN15–25) ..... 2.0" WC – 1500 psig (103 Barg)
1-1/4" – 2" (DN32–50) ..... 2.0" WC – 1250 psig (86.1 Barg)
2-1/2" – 4" (DN65–100) .... 2.0" WC – 600 psig (55.2 Barg)

Function of diaphragm material and diaphragm construction. See Table 1.

Pressure Drop Limits

.05–1500 psid (.03 – 103.4 Bard)
Function of service fluid, base trim material, diaphragm and dynamic seal design. See Table 1 and Table DAG-2, DAG-3 & DAG-4.

Temperature Range

-20° to +400°F (-29° to +204° C)
Limited by body/cover dome/diaphragm material combinations, and by elastomeric seat, static seal, dynamic seal – materials. See Tables DAG-1A through -1H and Table DAG-5.

Inboard Leakage Rates

See Table DAG-10

Lower Piston Spring

(Formerly Model DA3): No lower piston spring; $P_2 = P_{Load}$.
Lower piston spring required; $P_2 < P_{Load}$.
See Table DAG-9 for available spring ranges.
NOTE: Use a lower piston spring with the following applications:
1. When using a metal diaphragm.
2. Pilot loaded.
3. When decaying inlet may reach 0 psig.

Optional Constructions

Opt-30: Weld-on Flanges
Opt-31: BSP End Conns.
Opt-32: Ext. Pipe Nipples
Opt-40: NACE Const.
Opt-41: Ext. Tube Ends
Opt-55: Oxygen Cleaned
Opt-56: Special Cleaned
Opt-57: Chlorine Cleaned
Opt-81: Full Diaph Support
Opt-85: Extra Set Pressure Taps
Opt-95: Epoxy Paint
Opt-95OS: Epoxy Paint

ABBREVIATIONS		
FK = Fluorosilicone	NBR = Buna-N	PTFE = Polytetrafluoroethylene
FKM = Fluorocarbon	RTFE = Brz-fill TFE	V-TFE = Virgin TFE
EPR = Ethylene Propylene	GF-TFE = Glass-fill TFE	CTFE = Chlorotrifluoroethylene
BC = Neoprene	PA = PolyAll	3-ply (PTFE+FKM+PTFE)

MATERIAL SPECIFICATIONS

Body

CI – ASTM A126, Grade B.
CS – ASTM A216, Grade WCB.
BRZ – ASTM B62, Alloy 83600,
SST – ASTM A351, Grade CF3M.
HC – ASTM A494, Gr. CW-12 MW.

See DAG-1A through DAG-1H for material specs.

Cover Dome

CI – ASTM A126, Grade B.
CS – ASTM A216, Grade WCB.
BRZ – ASTM B62, Alloy 83600,
SST – ASTM A351, Grade CF3M or ASTM A479, Grade 316L.

Metallic Trim *

Plug, Cage, Piston: 17-4PH SST, 316L SST, Nickel-Copper Alloy (Monel†), See Table 2.

Diaphragm *

Elastomeric – BC, EPR, FKM, FK, NBR, FKM+TFE, 3-ply (PTFE+FKM+PTFE).
Metallic – Be-Cu. (only 1/2" - 2" sizes)

Seat *

PolyAll, V-TFE, GF-TFE, CTFE

Static Seals (See Fig. DAG-F1) *

RTFE, NBR, FKM, FK, EPR,
SST/TFE (1/2"–2" (DN15–50) sizes),
V-TFE (2-1/2"–4" (DN65–100) sizes)

Dynamic Seals (See Fig. DAG-F1) *

Type OR - NBR, FKM, FK, EPR o-ring seal.
Type UC – V-TFE u-cup seal w/ 316L SST enegizer
– V-TFE u-cup seal w/ Elgiloy energizer
Type CW – TFE cap seal with o-ring energizer (o-ring material same as above): and GF-TFE wiper backup seal.
Type PW – GF-TFE piston ring assembly seal with 17-7PH SST energizer; and GF-TFE wiper backup seal.

Painting

Standard: All non-corrosion resistant portions to be painted with corrosion resistant epoxy paint per Cashco Spec #S-1606.
Alternate: See Opt-95or Opt-95OS.

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* See Product Coder for acceptable combinations.
† Hastelloy®, Monel™ and Inconel® are registered trade names:
Hastelloy® is a mark owned by Stelite Div., Cabot Corp.
Monel™ is a mark owned by International Nickel Co.
Inconel® is a mark owned by International Nickel Co.

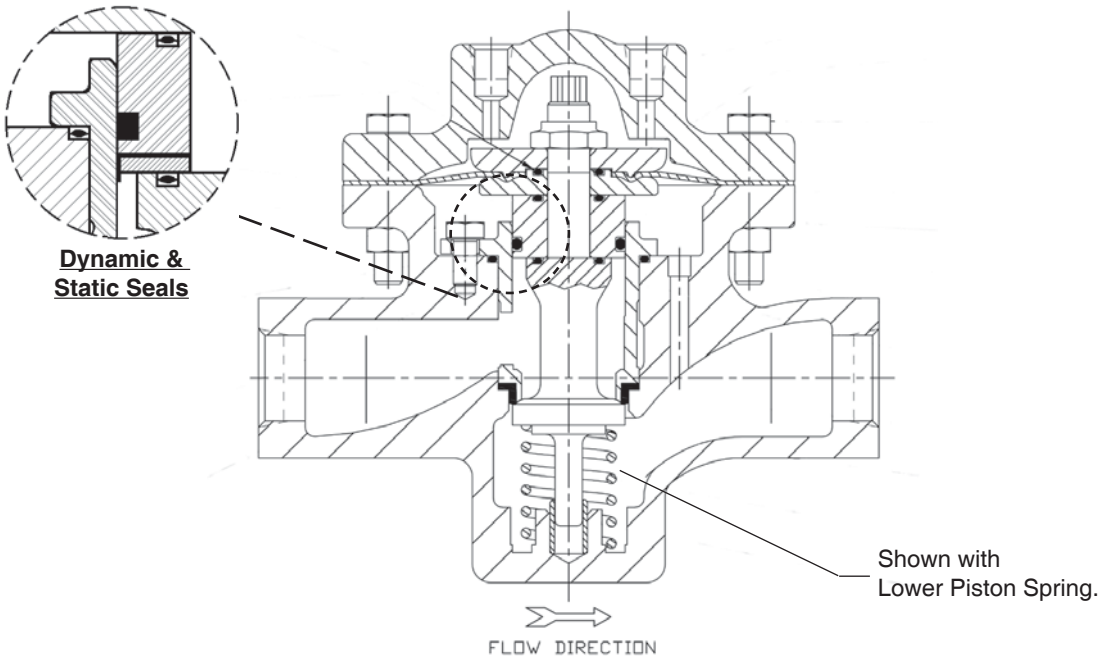


FIGURE 1 – Model DA4

OPTION SPECIFICATIONS

OPT-30: **WELDED FLANGED CONNECTIONS.** CS, SST or HC body materials only. 1/2" – 1-1/2" (DN15–40) body sizes only (no 1-1/4" (DN32) size). Welded-on flange of same general chemistry as body.

Weld-On Flanges		
Sizes	**Body Material**	**ASME Pressure Class**
1/2" - 3/4"	CS, SST	150, 300, 600
1"	CS, SST	600
1",1-1/2"- 2"	HC	150, 300
Sizes	**Body Material**	**ISO Pressure Class**
DN15-50	CS, SST	PN40 RF
DN65-100	CS, SST	PN16, 25, 40 RF

NOTES: 1. The body P vs. T ratings are the limiting variables for flanged end connections, unless further restricted by ASME B16.5.
2. No post-weld stress relieving performed.

OPT-31: **BSP END CONNECTIONS.** British Standard Pipe threads per ISO 7/1; used as an alternate to NPT ends. 1/2" – 2" (DN15–50) sizes only.

OPT-32: **EXTENDED PIPE NIPPLES.** Sch. 80 extension pipe nipples available for CS and SST bodies; for body sizes 1/2" – 2" (DN15–50) only.

OPT-40: **NACE CONSTRUCTION**. Internal wetted portions meet NACE Std. MR0175 for application in sour gas/crude service. Exterior of unit to not be directly buried, insulated, or otherwise denied direct atmospheric exposure. CS/CS, SST/CS, or SST/SST body/cover dome materials only. 316L SST trim material only. ELG/TFE U-cup dynamic seals. Available in all end connections. All welded portions heat treated to stress relieve weldments. The lower spring in Model DA4 is constructed of Inconel†.

OPT-41: **EXTENDED TUBE END CONN**. SST body material only. Body sizes 1/2" - 1" (DN15–25), 1-1/2" - 2" only. SST extension tubes are welded to body, ending in tube diameters with 0.065 inch (1.65 mm) wall thickness, NOT FOR HIGH PURITY REQUIREMENTS.

OPT-55: **SPECIAL CLEANING - GOX**. BRZ or SST body materials only. Cleaning, assembly and packaging per Cashco Spec #S-1134, making unit suitable for Oxygen service. **NOTE: Design Pressure Rating shall not exceed 290 psig (20.0 Barg) when body/topworks are constructed of SST.**

OPT-56: **SPECIAL CLEANING**. Cleaning per Cashco Spec. No. S-1542 for all body/cover dome materials. Higher cleaning level than std. commercial cleaning. NOT suitable for Oxygen Service.

OPT-57: **SPECIAL CLEANING - Cl_2.** CS, SST, or HC body materials only. cleaning per Cashco Spec. No. S-1589. For chlorine gas/liquid service.

OPT-81: **FULL DIAPHRAGM SUPPORT CONSTRUCTION.** Incorporates top and bottom diaphragm support that allows reaching higher fluid pressures on the underside and topside of diaphragm. Sizes 1/2"-2" (DN15 - 50) only. See Table 1.

OPT-85: **PRESSURE TAPS**. Provides second set of inlet and outlet 1/4" (DN8) - FNPT taps with plugs (same basic material as body) on backside of body. Includes second external sensing port tap. See page 17 of DAG-TB for details on tap location for both STD. and Opt -85. **NOTE:** Not available for HC body.

OPT-95: **EPOXY PAINT**. Special epoxy painting of all non-corrosion resistant external surfaces per Cashco Spec #S-1547. Utilized in harsh atmospheric conditions.

OPT-95OS: **EPOXY PAINT**. Special epoxy painting of all non-corrosion resistant external surfaces per Cashco Spec #S-1687. Utilized in OFFSHORE atmospheric conditions.

TECHNICAL SPECIFICATIONS

TABLE 1
MAXIMUM DIAPHRAGM RATING *
psig (Barg)

NOTE: The below ratings may be further "derated" by limitations thru the Pressure Equipment Directive (97/23/EC-May '97).

Diaphragm Material	BODY SIZE 1/2"-2" (DN15-50)		BODY SIZE 2-1/2"-4" (DN65-100)
	STD DIAPHRAGM CONSTRUCTION	** OPT-81 FULL DIAPHRAGM SUPPORT	STD DIAPHRAGM CONSTRUCTION
BC, EPR	1250 (86.1)	1250 (86.1)	800 (55.1)
FKM (0.05") FKM+TFE, NBR	450 (31.0)	1250 (86.1)	300 (20.6)
FKM, FKM+TFE, FK	700 (48.2)	1250 (86.1)	550 (37.9)
3-ply (PTFE+FKM+PTFE)	125 (8.6)	125 (8.6)	125 (8.6)
METAL Be-Cu	1500 (103)	NA	NA

* Maximum pressure setpoint of Pressure Safety Valve or Rupture disk should not exceed 1.5 times tabulated value to prevent irreversible diaphragm mechanical damage or rupture.
** Not available for CI/CI, BRZ/CI, BRZ/BRZ, CS/CI & SST/CI body/cover dome constructions.
NA = NOT AVAILABLE

TABLE 2
METALLIC TRIM MATERIAL COMBINATIONS

PART	TRIM DESIGNATION			
	P	M	S	T
Plug	17-4 PH SST	Monel†	316L SST	17-4 PH SST
Guide Bearing	17-4 PH SST	Monel†	316L SST	17-4 PH SST
Cage	17-4 PH SST	Monel†	316L SST	Monel†
Body Bushing	17-4PH SST	Monel†	Monel†	Monel†

† See Page 3 for registered trade name information.

TABLE 3A
DIMENSIONS AND WEIGHTS - ENGLISH UNITS (in)

DIMEN.	END CONN.	BODY MAT'L	BODY SIZE					
			1/2", 3/4 & 1"	1-1/4" & 1-1/2"	2"	2-1/2"	3"	4"
A	NPT	CI, BRZ	6.00	9.88	9.88	–	–	–
		CS, SST, HC	8.25	9.88	9.88	–	–	–
B	125# FF	CI	–	–	–	10.88	11.75	13.88
	250# RF	CI	–	–	–	11.50	12.50	14.50
	150# FF	BRZ **	9.63	11.50 √	11.50	10.88	11.75	13.88
	300# FF	BRZ **	9.63	11.50 √	11.50	11.50	12.50	14.50
	150# RF	CS, SST, HC*	10.75	12.38 √	10.00	10.88	11.75	13.88
	300# RF	CS, SST, HC*	10.75	12.38 √	10.50	11.50	12.50	14.50
	600# RF	CS, SST	10.75	12.38 √	11.25	12.25	13.25	15.50
C	OPT-32 EXT NIPS	CS, SST	14.00	15.75	15.75			
	OPT-41	SST	14.00	15.75	15.75			
E	ALL	ALL	2.56	3.69	4.00	5.25	5.75	7.00
J	ALL	ALL	5.19	5.56	6.56	9.00	9.50	10.00
G	ALL	ALL	6.00	7.00	8.00	10.00	11.00	11.13
APPROX. WEIGHT LB	wo/ Flanges	ALL	23	32	48	–	–	–
	w/ Flanges	ALL	28	42	61	90	155	164

* Available in HC body material in sizes 1", 1-1/2", & 2" ONLY.
** Flanged BRZ bodies available in sizes 1", 1-1/2", 2", 2-1/2", 3", & 4" ONLY.
√ Flange Connection not available for 1-1/4" size.
Consult Factory for dimensions of ISO DIN Flanged units. (PN16, PN25, PN40)

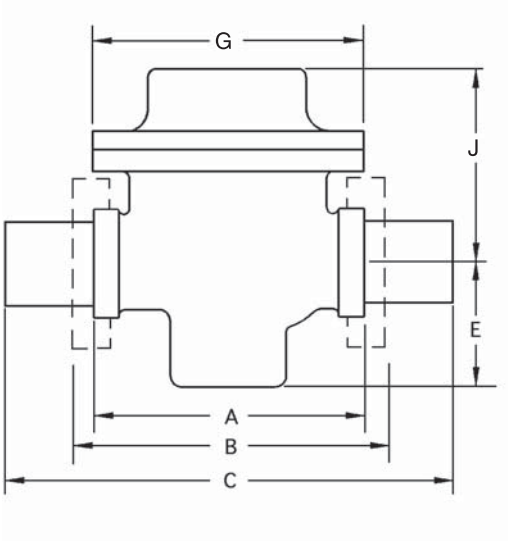
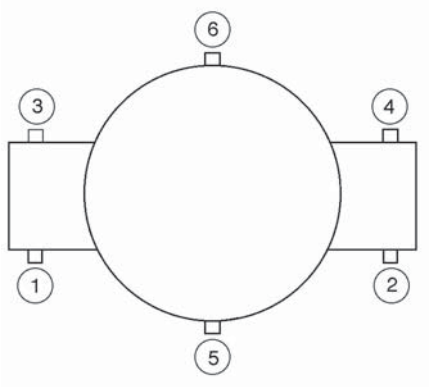


TABLE 3B
DIMENSIONS AND WEIGHTS - METRIC UNITS (mm)

DIMEN.	END CONN.	BODY MAT'L	BODY SIZE					
			DN15, DN20 & DN25	DN32 & DN40 √	DN50	DN65	DN80	DN100
A	NPT	CI, BRZ	152	251	251	–	–	–
		CS, SST, HC	210	251	251	–	–	–
B	125# FF	CI	–	–	–	276	298	353
	250# RF	CI	–	–	–	292	318	368
	150# FF	BRZ **	245	292 √	292	276	298	353
	300# FF	BRZ **	245	292 √	292	292	318	368
	150# RF	CS, SST, HC*	273	314 √	254	276	298	353
	300# RF	CS, SST, HC*	273	314 √	267	292	318	368
	600# RF	CS, SST	273	314 √	286	311	337	394
C	OPT-32 EXT NIPS	CS, SST	356	400	400			
	OPT-41	SST	356	400	400			
E	ALL	ALL	65	94	102	133	146	178
J	ALL	ALL	132	141	167	229	241	254
G	ALL	ALL	152	178	203	254	279	283
APPROX. WEIGHT Kg	wo/ Flanges	ALL	10	14	22	–	–	–
	w/ Flanges	ALL	12	19	28	41	70	74

* Available in HC body material in sizes DN25, 40 and 50 ONLY.
** Flanged BRZ bodies available in sizes DN25, DN40, DN50, DN65, DN80 & DN100 ONLY.
√ Flange Connection not available for DN32 size.
Consult Factory for dimensions of ISO DIN Flanged units. (PN16, PN25, PN40)



Model DA4

PRESSURE TAP LOCATIONS						
BODY MAT'L.	①	②	③	④	⑤	⑥
CI	Std	Std	OPT-85	OPT-85	Std	OPT-85
BRZ	Std	Std	Std	OPT-85	Std	OPT-85
CS	Std	Std	OPT-85	OPT-85	Std	OPT-85
SST	Std	Std	OPT-85	OPT-85	Std	OPT-85
HC	N/A	N/A	N/A	N/A	√	N/A

√ Coded as "external".

MODEL DA4 PRODUCT CODE 11/01/10

D4	Table 1	—	Table 2	Table 3	Table 4	—	Table 5	Table 6	Table 7	0	Table 8	Table 8	Table 8	Table 8	E

TABLE 1 - SIZES

Size		STD	OPT-81
in	(DN)	CODE	CODE
1/2"	(15)	4	J ^
3/4"	(20)	5	K ^
1"	(25)	6	L ^
1-1/4"	(32)	7	M ^
1-1/2"	(40)	8	N ^
2"	(50)	9	P ^
2-1/2" ^	(65)	A	NA
3" ^	(80)	B	NA
4" ^	(100)	C	NA

^ Not available with metal diaphragms.
NA Not Available

TABLE 2 - BODY/COVER DOME MATERIALS

Materials	CODE	Materials	CODE
CI/CI	1	SST/CI	7
BRZ/CI	2	SST/CS *	9
BRZ/BRZ	B	SST/SST *	A
CS/CI	4	HC/CS ‡‡	G
CS/CS *	5	HC/SST ‡‡	H

* Select for Opt-81
‡‡ Sizes 1/2"-2" Except No 1-1/4".

TABLE 3 - DIAPHRAGM AND SEAT MATERIALS

Trim Material	Seat	Diaphragm	O-ring/Seal Static	O-ring/Seal Dynamic	CODE
17-4PH SST "P"	PA	BC	NBR	O-ring	P1
	PA	BC	NBR	SST/TFE u-cup	P2
	CTFE	BC	NBR	SST/TFE u-cup	P3
	PA	EPR	EPR	O-ring	P4
	PA	NBR	NBR	O-ring	P5
	PA	NBR	NBR	SST/TFE u-cup	P6
	PA	FK	FK	SST/TFE u-cup	P7
	GF-TFE	FK	FK	SST/TFE u-cup	P8
	V-TFE	FK	FK	SST/TFE u-cup	P9
	PA	FKM	FKM	O-ring	PA
	PA	FKM	FKM	SST/TFE u-cup	PB
	GF-TFE	FKM	FKM	O-ring	PC
	GF-TFE	FKM	FKM	SST/TFE u-cup	PD
	V-TFE	FKM + TFE	SST/TFE u-cup √	SST/TFE u-cup	PE
	GF-TFE	3-ply	RTFE	SST/TFE u-cup $	PF
	GF-TFE	3-ply	RTFE	PRA + W $	PG
	PA	NBR	NBR	TFE+NBR GFTFE CW	PH
	PA	EPR	EPR	TFE+EPR GFTFE CW	PJ
	PA	FK	FK	TFE+FK GFTFE CW	PK
	GF-TFE	FKM	FKM	TFE+FKM GFTFE CW	PL
Monel "M"	PA	FK	FK	SST/TFE u-cup ‡	M7
	V-TFE	FK	FK	SST/TFE u-cup	M9
	V-TFE	FKM-TFE	SST/TFE u-cup √	SST/TFE u-cup	ME
	PA	NBR	NBR	TFE+NBR GFTFE CW	MH
	PA	EPR	EPR	TFE+EPR GFTFE CW	MJ
	PA	FK	FK	TFE+FK GFTFE CW	MK
	GF-TFE	FKM	FKM	TFE+FKM GFTFE CW	ML
316L SST "S"	PA	FK	FK	SST/TFE u-cup	S7
	V-TFE	FK	FK	SST/TFE u-cup	S9
	PA	BE-CU *	SST/TFE u-cup	SST/TFE u-cup	SM
	V-TFE	BE-CU *	SST/TFE u-cup	SST/TFE u-cup	SN
	PA	NBR	NBR	TFE+NBR GFTFE CW	SH
	PA	EPR	EPR	TFE+EPR GFTFE CW	SJ
	PA	FK	FK	TFE+FK GFTFE CW	SK
	GF-TFE	FKM	FKM	TFE+FKM GFTFE CW	SL
NACE OPT-40	PA	NBR	NBR	ELG/TFE u-cup	NR
	PA	FKM	FKM	ELG/TFE u-cup	NS
17-4PH/ Monel/17-4PH "T"	PA	FK	FK	SST/TFE u-cup ‡	T7
	V-TFE	FK	FK	SST/TFE u-cup	T9
	PA	BE-CU *	SST/TFE u-cup	SST/TFE u-cup	TM
	V-TFE	BE-CU *	SST/TFE u-cup	SST/TFE u-cup	TN
	PA	NBR	NBR	TFE+NBR GFTFE CW	TH
	PA	EPR	EPR	TFE+EPR GFTFE CW	TJ
	PA	FK	FK	TFE+FK GFTFE CW	TK
	GF-TFE	FKM	FKM	TFE+FKM GFTFE CW	TL

‡ For GOX service, PA seats allowed in BRZ Bodies w/ trim materials "M" or "T" only.
* 2-1/2" - 4" sizes are not available with metal diaphragm.
√ Sizes 2-1/2"-4" use V-TFE static seal.
$ Only for Max < 125 psig. Abbreviations defined on page 2

TABLE 4 - Product Classification Under European "Pressure Equipment Directive"

PRODUCT	HAZARD CATEGORY	CODE
Standard	N/A	7
EUROPEAN * Consult Factory for Special Code (CE Mark does not apply to DN25 and below)	Sound Engineering Practice (SEP)	S
	CE Marked Hazard Cat I or II	E

* For products to be placed in service in Europe .
Forward Completed "EU" Application Recorder prior to quotation. (Without Recorder- Processing of Purchase Order will be delayed). Ref to Directive 97/23/EC. Contact Cashco for Assistance.

TABLE 5 - END CONNECTIONS / ASME

Size	Material	Method	End Conn	CODE	End Conn	CODE	End Conn	CODE
1/2" - 2"	ALL	–	NPT	1	–	–	–	–
2-1/2" - 4"	CI	Integral	125#FF	2	250#RF	3	–	–
1", 1-1/2" - 4"	BRZ	Integral	150#FF	6	300#FF	7	–	–
1/2" - 3/4"	CS,SST	Opt-30	150#RF	4	300#RF	5	600#RF **	8
1" - 4"	CS-SST	Integral *						
1" - 2"	HC	Opt-30 *						
1/2" - 2"	ALL	Opt-31	BSP	P	–	–	–	–
1/2" - 2"	CS, SST	Opt-32	Extended Nipples			E	–	–
1/2" - 1", 1-1/2" - 2"	SST	Opt-41	Non-High Purity Tube Ends			T	–	–
END CONNECTIONS FOR ISO DIN FLANGES								
DN15-25, 40, 50	BRZ	Integral	PN40 FF - will mate with PN16, 25 and 40					J
DN65-100			PN16 FF	K	PN25 FF	L	PN40 FF	M
DN15-25, 40, 50	CS, SST, HC	Opt-30	PN40 RF - will mate with PN16, 25 and 40					D
DN65-100	CS, SST	Integral	PN16 RF	A	PN25 RF	C	PN40 RF	G

* Flanges Not Available for 1-1/4" (DN32) size.
** 1" size w/600# RF CS or SST has weld-on flanges Opt-30. (Not available in HC material)

TABLE 6 - LOWER SPRING

Model	Spring Range psig	Loading Method	CODE
DA4	No Spring *	Loaded	0 *
	2-5	Loaded	3
	1-2	Loaded	5
	4-10	Piloted	6
DA4 NACE	4-10	Loaded	N

* Code formerly used for Model DA3 Composition Diaphragm Only

TABLE 7 - SENSING /LOADING CONFIGURATION

Option	Sensing Only	Sensing WITH Loading Conf. *
	CODE	CODE
Internal	1	A
External	2	B
Large Internal	4	C

*Requires Additional Loading Schematic. See Product Coders 92 thru 98.

TABLE 8 - OPTIONS

Description	Option.	CODE
No Option	–	0
NACE CONST: CS/CS, SST/CS or SST/SST All Sizes (No 1-1/4")	-40	J
Special Cleaning: Per Cashco Spec #S-1134. W/ properly selected mat'ls,this procedure suitable for oxygen service. BRZ or SST body material.	-55	M
Special Cleaning: Per Cashco Spec #S-1542. All body/cover dome materials	-56	N
Special Cleaning: Per Cashco Spec #S-1589 Cl_2 Service	-57	P
Second Set 1/4" (DN8) FNPT Body Pressure Taps & Plugs	-85	T
Epoxy Painted Per Cashco Spec #S-1547	-95	W
Epoxy Painted Per Cashco Spec #S-1687	-95OS	Y
For Special Construction Other Than Above Contact Cashco for Special Product Code		

1. NUMERIC digits assigned first in "ascending" order.
2. ALPHA designations are assigned second in "alphabetical" order.
3. Left justify.
4. Add "0" to all unused squares.
5. If insufficient quantity of squares, consult factory for proper code.

Cashco, Inc.
P.O. Box 6
Ellsworth, KS 67439-0006
PH (785) 472-4461
FAX (785) 472-3539
www.cashco.com
E-mail: sales@cashco.com or exportsales@cashco.com
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