Bray®

YOUR GLOBAL FLOW CONTROL PARTNER™

Series 92/93 Pneumatic Actuators
Extreme Temperature Trim

Harsh Environments Demand High Performance

The Bray Extreme Temperature Trim Delivers.

Built on decades of field-proven technology, the Bray Series 92/93 Extreme Temperature actuator trim delivers industry leading performance in high temperature applications. Specialized components are designed for extreme heat applications where others may fail.

The Bray Extreme Temperature actuator surpasses industry standards for safety and performance in a variety of applications:

- **Steam Service**
- **High Temperature Refining**
- **Transit Tunnel Dampers**

and any process or application in elevated high temperature environments.

SUPERIOR PERFORMANCE

- Continuous actuator service up to 350°F (176°C)
- Exposure time of 4 hours at 482°F (250°C) during an emergency event
- Pipeline media up to 1,100°F (593°C)

FLEXIBLE DESIGN

- Double Acting or Spring Return
- Multiple mounting configurations

ISO 5211 MOUNTING DIMENSIONS

- Double-D or Star Drive Interface

DIRECT MOUNT

- Smaller package envelope
- Less hysteresis
- Minimal mounting cost
- Reduces side loading and wear

OPERATING CONDITIONS	
Pressure Range	40 - 140 psi (2.8 - 10 bar)
Media	Dry Compressed Air/Inert Gas*
Temperature Range	High 0° F to 482° F (-18° C to 250° C)
Series 92 Double Acting **Series 93** Spring Return	Available in 90° Rotation
COMPLIANCES	
Torque Base	Mounting Dimensions as per ISO 5211: 2001(E)
Accessories	Shaft Driven Accessories Mounting per NAMUR-VDE
Ingress Protection	IP66/IP67M per IEC 60529

Series 92 Actuator Torque Data (Lb-in) (Nm) Air Operated, Torque Output

Actuator Size	Air Supply Pressure PSIG (Bar)				
	40 (3)	60 (4)	80 (6)	100 (7)	120 (8)
119	1,060 (120)	1,614 (182)	2,163 (244)	2,707 (306)	3,258 (368)
128	1,432 (162)	2,144 (242)	2,860 (323)	3,622 (409)	4,346 (491)
160	2,806 (317)	4,214 (476)	5,620 (635)	7,018 (793)	8,424 (952)
210	5,880 (664)	8,875 (1001)	11,647 (1316)	14,502 (1639)	17,337 (1959)

Series 93 Actuator Torque Data Lb-in (Nm) Air Operated, With Spring Return, Torque Output

Actuator Size	Springs per Piston	Air Supply Pressure PSIG (Bar)										Spring	
		40 (3)		60 (4)		80 (6)		100 (7)		120 (8)			
		Start	End	Start	End	Start	End	Start	End	Start	End	Spring Start	Spring End
119	2	772 (87)	468 (53)	1320 (149)	1,559 (115)	1,857 (210)	1,559 (176)	2,415 (273)	1,905 (215)	2,958 (334)	2,451 (277)	580 (66)	297 (34)
	3	582 (66)	119 (13)	1130 (128)	1,224 (76)	1,679 (190)	1,224 (138)	2,224 (251)	1,763 (199)	2,773 (313)	2,315 (262)	890 (101)	465 (53)
	4			967 (109)	896 (40)	1,519 (172)	896 (101)	2,064 (233)	1,443 (163)	2,613 (295)	1,989 (225)	1,197 (135)	629 (71)
	5					1,346 (152)	564 (64)	1,884 (213)	1,099 (124)	2,421 (274)	1,634 (185)	1,511 (171)	799 (90)
	6					1176 (133)	243 (27)	1726 (195)	784 (89)	2,277 (257)	1,326 (150)	1,824 (206)	965 (109)
128	2	1,026 (116)	706 (80)	1,754 (198)	2,145 (162)	2,496 (282)	2,145 (242)	3,230 (365)	2,885 (326)	3,966 (448)	3,604 (407)	713 (81)	401 (45)
	3	796 (90)	330 (37)	1,533 (173)	1,777 (119)	2,255 (255)	1,777 (201)	2,990 (338)	2,500 (282)	3,719 (420)	3,224 (364)	1,091 (123)	638 (72)
	4			1,296 (146)	1,379 (75)	2,028 (229)	1,379 (156)	2,770 (313)	2,105 (238)	3,505 (396)	2,821 (319)	1,462 (165)	850 (96)
	5					1,787 (202)	1,005 (114)	2,525 (285)	1,743 (197)	3,262 (369)	2,481 (280)	1,825 (206)	1,064 (120)
	6					1,562 (176)	625 (71)	2,301 (260)	1,335 (151)	3,039 (343)	2,044 (231)	2,192 (248)	1,295 (146)
160	2	1,927 (218)	1,199 (135)	3,418 (386)	4,138 (303)	4,862 (549)	4,138 (468)	6,324 (715)	5,605 (633)	7,791 (880)	7,075 (799)	1,596 (180)	905 (102)
	3	1,482 (167)	380 (43)	2,958 (334)	3,297 (211)	4,396 (497)	3,297 (373)	5,858 (662)	4,763 (538)	7,315 (826)	6,203 (701)	2,366 (267)	1,315 (149)
	4			2,482 (280)	2,456 (113)	3,937 (445)	2,456 (277)	5,383 (608)	3,900 (441)	6,835 (772)	5,352 (605)	3,166 (358)	1,759 (199)
	5			1,925 (217)	1,567 (16)	3,410 (385)	1,567 (177)	4,856 (549)	3,041 (344)	6,328 (715)	4,515 (510)	3,968 (448)	2,253 (255)
	6					2,927 (331)	712 (80)	4,372 (494)	2,180 (246)	5,816 (657)	3,647 (412)	4,793 (542)	2,651 (300)
210	2	4406.4 (498)	3,086 (349)	7,486 (846)	9,103 (686)	10,464 (1182)	9,103 (1029)	13,510 (1526)	12,105 (1368)	16,538 (1869)	15,113 (1708)	2,722 (307)	1,546 (175)
	3	3604.8 (407)	1,632 (184)	6,600 (746)	7,637 (522)	9,583 (1083)	7,637 (863)	12,574 (1421)	10,634 (1201)	15,564 (1758)	13,636 (1541)	4,157 (470)	2,302 (260)
	4			5,854 (661)	6,281 (371)	8,873 (1002)	6,281 (710)	11,892 (1344)	9,281 (1049)	14,911 (1685)	12,281 (1388)	5,580 (630)	3,067 (347)
	5			4,961 (560)	4,788 (199)	8,069 (912)	4,788 (541)	11,141 (1259)	7,644 (864)	14,237 (1609)	10,612 (1199)	6,859 (775)	3,886 (439)
	6					7,099 (802)	3,152 (356)	10,154 (1147)	6,156 (696)	13,210 (1493)	9,160 (1035)	8,422 (952)	4,751 (537)

Global Manufacturing, Service Around the Corner

To serve you locally, each region maintains a factory certified sales and service network for all Bray International products.

With over 30 years of field application experience, research and development, we have designed products that meet the stringent requirements of today's flow control industry. Bray has earned a reputation for excellence by creating products of superior value and quality, providing personalized customer service and on-time deliveries. Our success has always been the direct result of our fully integrated range of rotary valve and control products. Rugged and reliable, our products are engineered to provide years of trouble free service.

Bray products are used in a wide range of markets worldwide including:

Chemical	Beverage
Brewing/Wine Making	Pharmaceutical
Food Processing	Petroleum Refining & Oilfield
Transportation	Ultrapure Water
Marine	Pulp & Paper
Mining	Power/FGD
Nuclear Power	Irrigation
Water & Wastewater Treatment	Textile
Desalination	Steel Production
Sugar/Ethanol	HVAC

PRODUCT QUALITY & PRECISION

Bray manufacturing facilities are certified to ISO 9001 quality standards, assuring product quality, precision manufacturing and internal process integrity. The basis for Bray Control's high level of quality assurance are the quality control guidelines and procedures submitted, reviewed and approved in accordance with criteria established within ISO 9001:2000 and EU Directives.

- All Bray valves are pressure tested to 110% of rated pressure to assure bubble-tight shutoff.
- All actuators are calibrated and cycle tested before shipment. Pneumatic actuators are also pressure tested to assure no leakage.
- Material Traceability - Certification is provided for all valves upon request for all pressure retaining components.
- Positive Material Identification - All materials are subjected to PMI testing to verify material traceability certificate.

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For more information and complete listing of approvals & certifications & a location near you

ISO 9001 · NSF 61 · ABS TYPE APPROVED PRODUCT · BUREAU VERITAS · DNV

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