



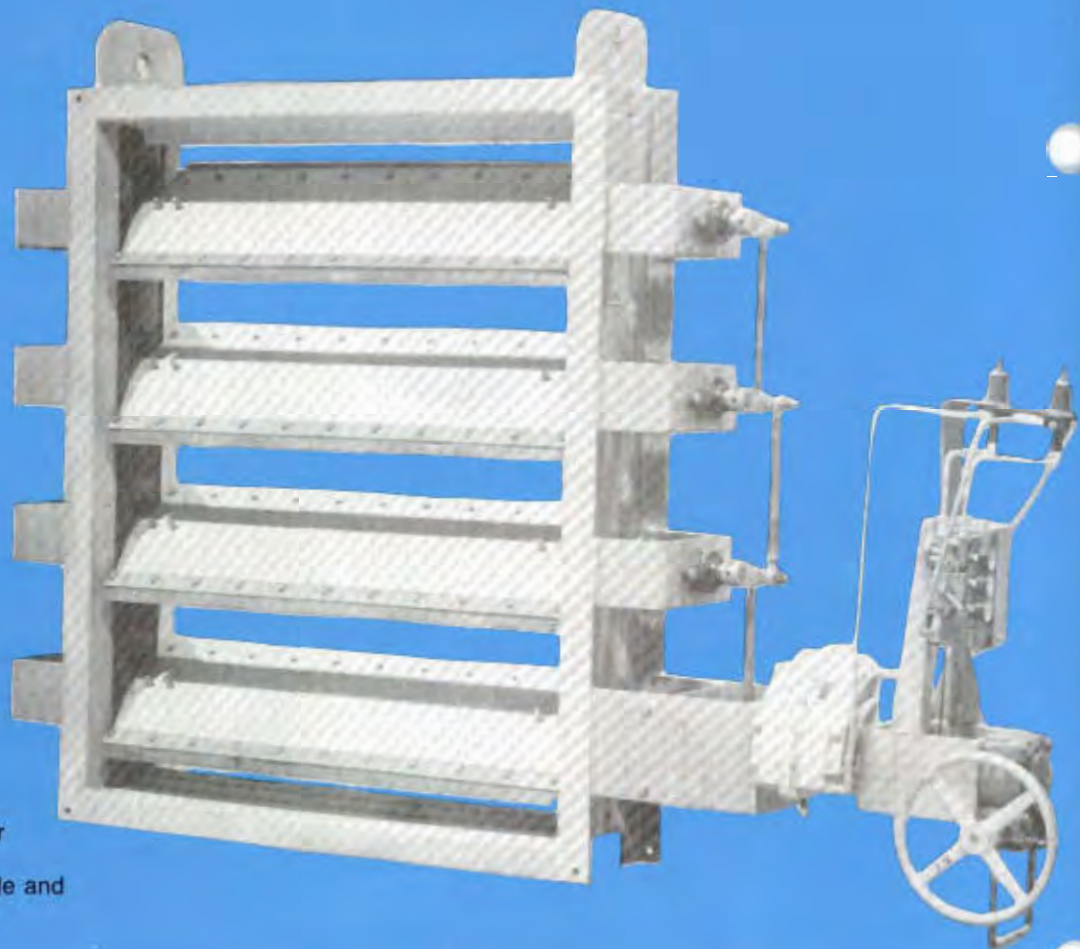
fabricated butterfly valves and dampers

bulletin 3000

Shan-Rod
Fabricated
Dampers
3000 Series



Shan-Rod heavy duty Dampers



54" x 45" Type 3623-5

1. Temperature Control Damper
2. Refinery Gas @ 850°F
3. Flexible Spring Metallic Blade and Jam Seals for ¼% leakage.

THE SHAN-ROD DAMPER

Shan-Rod fabricated dampers are designed to give long, trouble free service in all low pressure service applications. The versatility of fabricated dampers allows Shan-Rod to design the damper to your specifications as required by your systems.

DESCRIPTION

3200 Series - C. stl. body and flanges, single blade, inboard carbon bushings, stuffing box pwr end only w/Lube-Purge fitting both ends.

3400 Series - Ditto 3200 Series except Multilouvre Solid or Airfoil, outboard ball bearings and packing glands both ends.

3600 Series - Ditto 3600 series w/outboard roller bearings, inboard bushings and Lube and Purge stuffing boxes both ends.

CORROSIVE AND HIGH TEMPERATURE SERVICES

Shan-Rod dampers are in service in many corrosive and high temperature applications such as sulphur oxides, flue gases, thaelic anhydride, blast furnace gases, sinter fumes, cupola gases, coke oven gases, humid acetone gases, toluene vapors, gas turbine exhausts, brackish water, salt water, catalyst fines, and temperatures to 2300°F. Shan-Rod engineers select the most compatible materials and coating for services as described above to supply the industry with a damper that is maintenance free for many years.

CONSTRUCTION AND MATERIALS

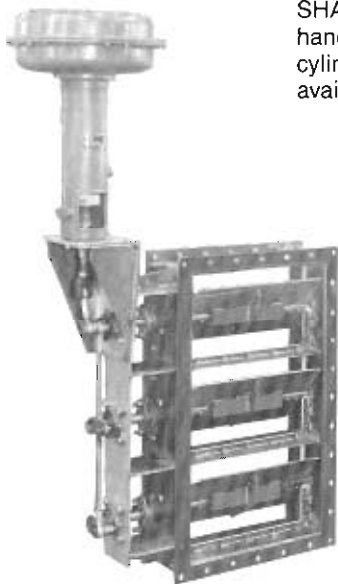
Construction	Std.	Optional
Flanges Body, Disc & Blades, both Solid & Airfoil	Carbon steel	Corten, Al. Br., Aluminum 304, 316, 317, 309, 310 & RA 330 SS. Carpenter 20, Titanium, Tantalum.
Shaft 3200 & 3600	304 SS	Alum., Al. -Br., 300 Series SS, 309, 310, RA-330 SS, Carp. 20, Titanium & Tantalum.
3400	Carbon Steel	
Bushings	Carbon 3200 & 3600 only	Gr.Br., 17-4 Ph, 300 Series SS, Stellite, Glass TFE filled.
Bearings (Out- board ball)	3400 3600	Ball & Roller - all sizes on 3200 only
Packing Follower	304	Same alloys as body.
Lantern Gland	Graphitar	Same alloys as body. 304 SS
Packing Gland	304	304

OPERATING CONDITIONS

	Std.	Optional
Temp. °F	750	3000
Max. Static Press. (psig)	5	Consult
Shut-off Press. Drop (psi)	1	Factory

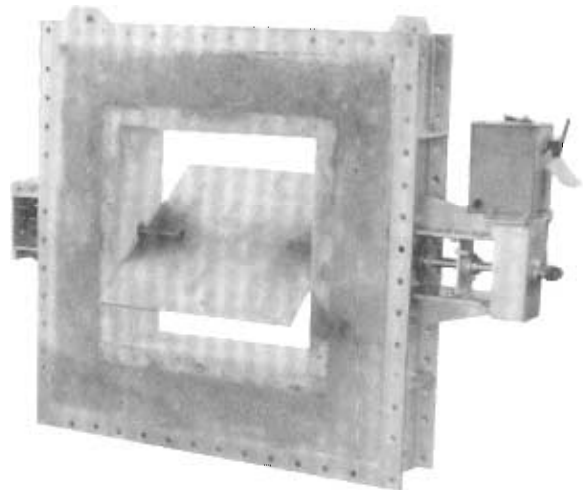
Operation & Special Construction

SHAN-ROD fabricated dampers can be operated by handlever, handwheel or chainwheel; power actuated by diaphragm, piston, cylinder or electric; with auxiliary declutchable handwheel available.



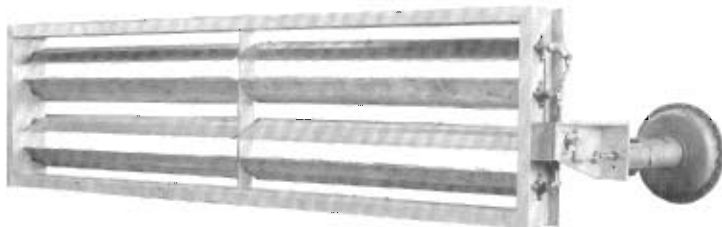
20" x 36" Type 3610-8

1. Combustion Control Valve
2. Hi-Temp Tadpole Seals (900°F) for 1/10% leakage.



50" x 30" Type 3230

1. Pressure Control - Aluminum Melt Furnace.
2. Refractory lined w/Hi-Temp blade and shaft for 1800° -2000°F.



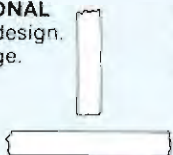
4' x 14' Type 3410

1. Temperature Control Damper
2. Hot dipped galvanized body and blades.

Standard Seat Designs

Valves also available with jam seals and blade edge seals.

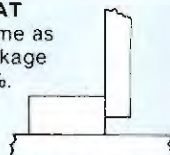
CONVENTIONAL
Swing-thru design.
*4-5% leakage.



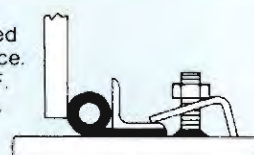
SCISSOR
Swing-thru design.
Leakage approx.
*1-2%.



METAL SEAT
Material same as
body — leakage
approx. *1%.



TADPOLE
Material furnished
varies with service.
Temp. to 2300° F.
Leakage approx.
*1/4 of 1%.



* Leakage based on max. flow

Stuffing Box

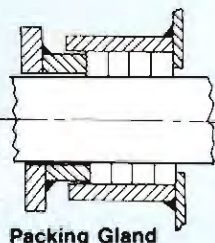
3200 & 3600 SERIES

Power End - Standard with carbon bushings requiring no lubrication for trouble free operation. Packing can be replaced without the removal of lever or actuator. It can also be furnished in stainless steel.

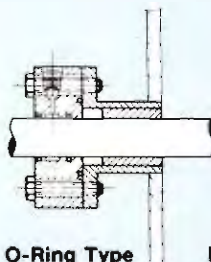
Blind End - Same as Power End except with no packing.

3400 SERIES

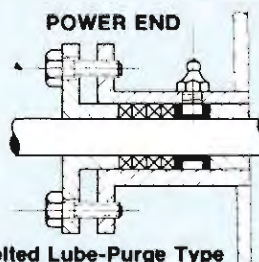
Power & Blind Ends - Packing gland no in board carbon bushing.



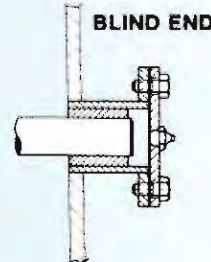
Packing Gland



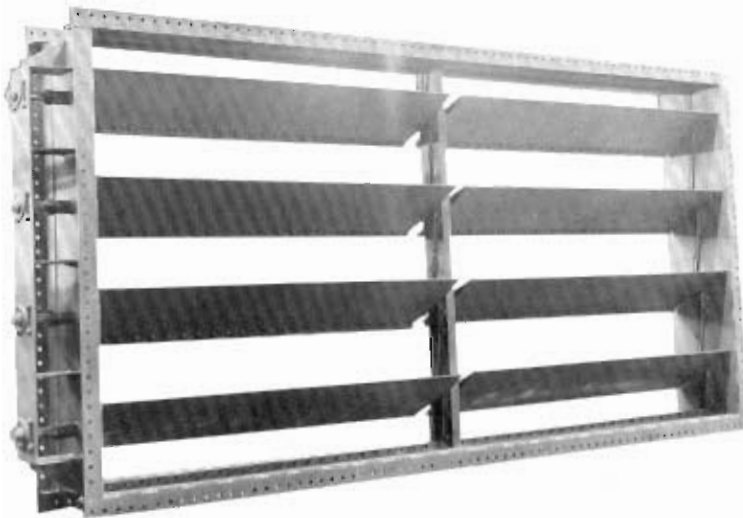
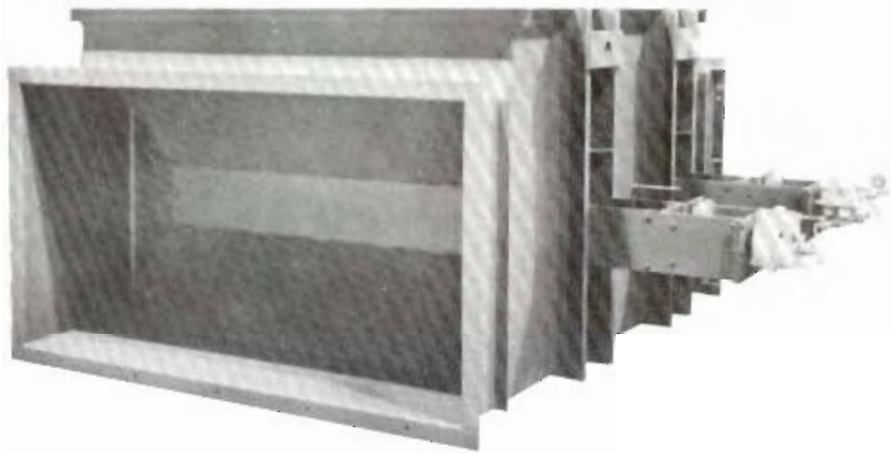
O-Ring Type



Bolted Lube-Purge Type



BLIND END



SPECIFICATION GUIDE

When ordering, specify: size, type of fluid, specific gravity, temperature, maximum pressure, maximum flow, differential pressure at shut-off, valve action (fail open or fail closed), flange ratings, accessories. Note: All valves furnished to nominal pipe outside diameter dimensions unless specified otherwise.

Other standard sizes available in increments of two inches, or valves can be custom made to customer specifications.

Do not use for construction purposes unless dimensions are approved.

Shaft may be vertical, if end of valve opposite power end is down (vertical thrust bearing or washer required).

MAINTENANCE

SHAN-ROD valves require a minimum of maintenance, depending on service conditions. Stub shaft bolted to disc with 304-SS bolts allows easy shaft and disc removal. Inboard bushings do not require lubrication, thereby saving time. If service is dirty or corrosive, use of optional teflon bushings or outboard bushings is recommended. Lubricated and/or purged stuffing boxes

should also be employed. All parts are easily replaced in field and, if required, are available from local sources since materials of construction are standard.

WARRANTY

Unless otherwise provided herein, Seller warrants title and that all goods sold hereunder shall conform to Seller's standard specifications. Seller warrants said goods to be free from defects in material and workmanship under normal use and service and Seller's obligations hereunder shall be limited to repairing or replacing the part or parts shown to have been defective at the time of shipment. In no event will Seller's liability exceed the contract price for the goods claimed to be defective and Seller will not, under any circumstances, be liable for any special or consequential damages. Seller's warranty obligations apply for a period of one year after shipment of the goods from the factory or sixty (60) days after installation of the equipment, whichever is longer. EXCEPT AS ABOVE STATED, SELLER MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND WITH RESPECT TO THE GOODS AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE HEREBY EXCLUDED.

As we are continually developing our products, the design of SHAN-ROD valves is subject to change without notice.