

## SCREWED END BALANCING VALVE

- Precise Double Regulation
- With Digital handle for precise flow regulation and on line flow measurement
- Valve Rating PN 16 and PN 20
- Positive Shut-off-PTFE Seal
- Conform to BS7350 DRV specification
- Low flow-noise emission
- Corrosion and Dezincification resistant (Bronze) construction
- Tamper proof Setting
- BSP or NTP female threads 25mm (1")-65mm (2.5") NB



*Changing the way you think about valves...*

### CONSTRUCTION AND TECHNICAL INFORMATION

**BODY** : Sturdy construction in Cast Gun Metal IS 318 Gr. LTB2 (equivalent to ASTM B62) corrosion and dezincification resistant.

**VALVE SEATING**: Special Seal of PTFE (Teflon) ring to suit temperature -46°C to +200°C against gun metal seat.

**SPINDLE** : Non-rising spindle of Brass IS 319 Gr.1 or Al. Bronze.

**DIGITAL HANDLEWHEEL** : All valves are fitted with a red Polyamide Plastic Hand Wheel, Reading Accuracy of one tenth of a turn guaranteed.

**DRAINCOCK** : An optional quarter turn drain cock on outlet side for fitment on either side of valve operatable by 6mm double end spanner to suit connecting 1/2" hose. Extended manometer tapping is available on request.

**DIFFERENTIAL PRESSURE MEASUREMENT** : For in the line determination of differential pressure across the Valve and subsequent flow calculation, manometer tapping with quarter turn valve suitable for digital differential pressure transducer connection for 1/2" hose provided. The quarter turn valve are operated using 6mm double end spanner. These tapping are suitable for the pressure measurement also. As an option self closing or capping connection are also available.

**TAMPER PROOF** : The valve are provided with Concealed Allen Screw operated by standard allen key for locking (tamper proofing) of the valve setting. The valve can be closed shut even if the locking has been done.

**DIRECTION OF FLOW** : The flow direction is marked by an arrow on the body.

**OPTIONAL SOFTWARE SERVICES** : Valve Selection Software, Digital Differential pressure meter. Flow computation hydraulic balancing along with on site water balancing available on request.

**END CONNECTIONS** : BSP female threads are provided as standard. Other thread connection like NTP etc. Can be provided on request.

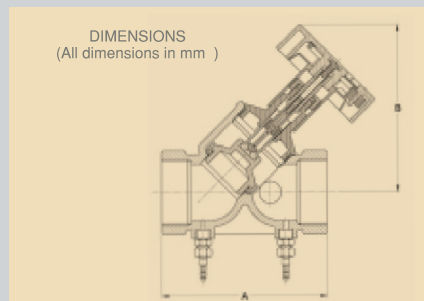
**TESTING** : ♦ Flow/Performance Test ♦ Hydro Testing

	Shell (Body)	Seat
PN-16	24 bar (g)	17.6 bar (g)
PN-20	30 bar (g)	22 bar (g)

**ACCURACY** : The valve performance is guaranteed within ± 5% of flow within the recommended operating range.

**SERVICE SUITABILITY** : Liquid Water, Steam and Ethelene Glycol

- PH value between 4 - 9.5.
- Temperature - 46°C to +200°C.
- Pressure upto 20 bar.



National Size mm	025 (1")	032 (1 1/4")	040 (1/2")	050 (2")	065 (2 1/2")	080 (3")
A	90	110	120	150	180	200
B	118	135	135	148.5	192	222
Spanner size SW	41	50	55	70	85	100
Weight	0.9	1.7	1.8	3.0	4.3	8.3

Manufactured & Marketed by



● **ADVANCE VALVES PVT. LTD.** ● **ADVANCE VALVES GLOBAL** ● **ADVANCE VALVE COMPANY**

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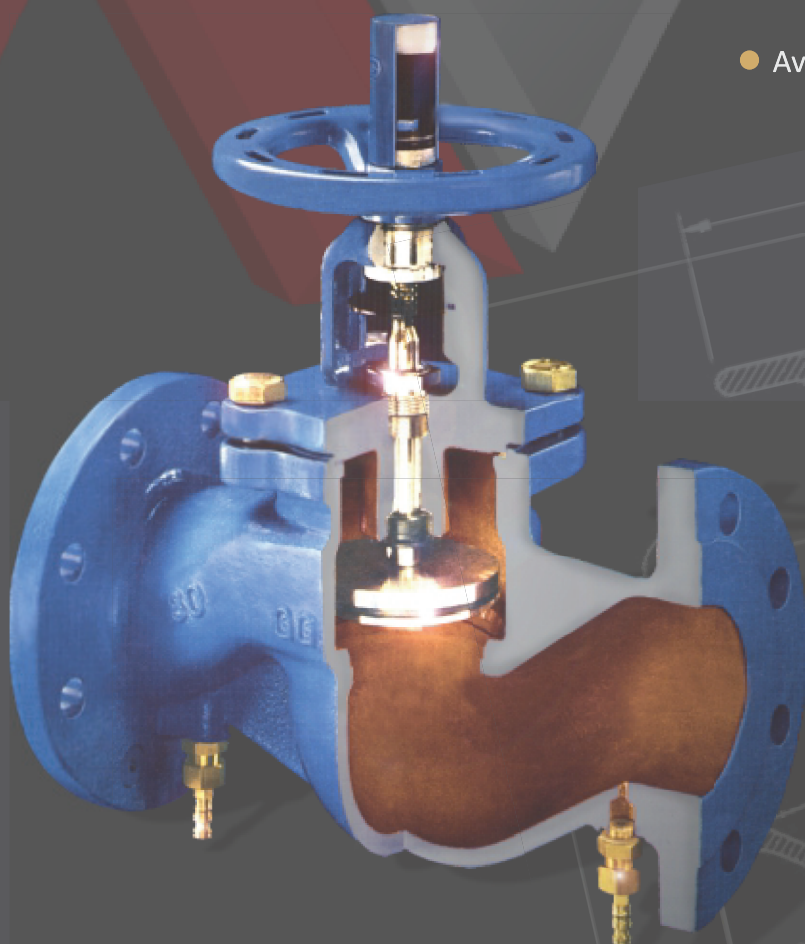
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## FLANGED BALANCING VALVE

- Precise Double Regulation
- Tamperproof setting with lockshield
- EPDM sealing disc to ensure positive shut-off
- With Pressure Test Cocks
- Facilitates systematic commissioning of the plant for optimal operation
- Available in PN16 and PN20 Rating.



*Changing the way you think about valves...*

### CONSTRUCTION AND TECHNICAL INFORMATION

Flanged Manual Balancing Valve are meeting BS 7350 double regulating valve available in sizes DN 80 (3") to DN 300 (12") and pressure rating Pn16 and PN20.

**BODY & BONNET** : Sturdy construction in Cast Iron as per IS 210 Gr. 260 for PN16, Ductile Iron for Pn20 internally epoxy coated.

**DISC** : As EN3 steel epoxy coated as standard or SS410 as optional.

**SEAT** : EPDM as standard or teflon as optional.

**STEM SEALING** : Special double seal of EPDM as back seat graphite asbestos gland packing.

**SPINDLE (STEM)** : Non-rising Spindle (Stem) of Stainless Steel Gr. SS 410. The movement of stem can be locked to make tamper proof.

**HANDWHEEL** : Mild Steel Fabricated. M.S.

**DOUBLE REGULATION** : Double regulation by precise and concealed limited stroke, Indicator scale from (fully shut) to fully open, shows handle turns. Additional "Micro Meter Scale" allows fine setting upto 1/10 of a handle wheel turn. After setting the valve as per balancing requirement, the spindle is locked by lock screw thus limiting the maximum operation of valve to preregulated position while still allowing to use as shut-off valve.

**MEASUREMENT OF PRESSURE DROP & FLOW RATE** : The valves are delivered with two body taps and one set of pressure test quarter turn cocks. Pressure drop across the valve can be measured with specially designed ADVANCE Portable Digital Defferential Pressure Meter, having instant couplings with the pressure test cocks. Pressure test cocks are opened by 1/4 turn using 6mm square double end spanner. Flow can be regulated by turning the wheel. Flow through the valve can be calculated by turning the wheel. Flow through the valve can be calculated by measuring differential pressure across the valve, noting set hand Wheel turns, using the published "K" factor of the valve for different hand wheel turns.

Flow Characteristic are available in the form of Graph as well as in the Computerized format.

The setting thus obtained can be locked by screwing in the lock screw and locking the lock nut which is protected by the lock shield on the hand wheel.

**DIRECTION OF FLOW** : Direction of the flow is marked on the valve body by an arrow.

**APPLICATION** : As double regulating, balancing and shut-off valve in hydronic system, In process industry for balancing flow. With special alloys, these valves can be used in Process Plant too for double regulating & flow measurement functions.

**TECHNICAL DATA** : Standard valves are designed for Maximum operating pressure of 16 bar (225 psi) for liquid temperature not exceeding 120 °C (250 °F) with pH values 4 to 9.5. Higher pressure upto PN20 & temperature values can be offered on request.

**FLANGED CONNECTION** : Flanges are drilled to IS 6392 (PN 16) or to Purchaser's specifications.

#### TESTING TABLE :

♦ Flow/Performance Test ♦ Hydro Testing

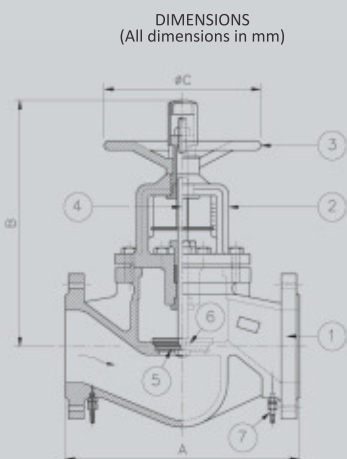
	Shell (Body)	Seat
PN-16	24 bar (g)	17.6 bar (g)
PN-20	30 bar (g)	22 bar (g)

#### MATERIAL SPECIFICATION : (Alternate metallurgies available on request)

- Body - CI 260 (GG 25)/DI
- Bonnet - CI 260 (GG 25)/DI (IS 1865 Gr. 450/10)
- Hand wheel - M.S.
- Stem - SS 410/431
- Lower Disc - SS-410 / EN-3
- Upper Disc - SS 410 / EN-3
- Body/Bonnet Gasket-CAF
- Body/Bonnet Bolts - A 307 Gr. B
- Gland Packing - Graphited Asbestos
- Steam seal - EPDM
- Seat Seal - EPDM
- Lock Screw
- Counter Nut
- Body Plugs

#### DIMENSIONS (All) :

Nominal Size	DN mm (Inch)	065 (4")	080 (3")	100 (4")	125 (5")	150 (6")	200 (8")	250 (10")	300 (12")
A	mm	290	310	350	400	480	600	730	850
Flange ØD	mm	185	200	220	250	285	340	408	460
B	mm	300	306	410	450	495	600	760	820
ØC	mm	160	160	222	222	290	385	538	538
Handwheel Turns		8	8	10	12	14	13	12	14.5
Weight	kg.	21	27	42	57	86	167	320	440



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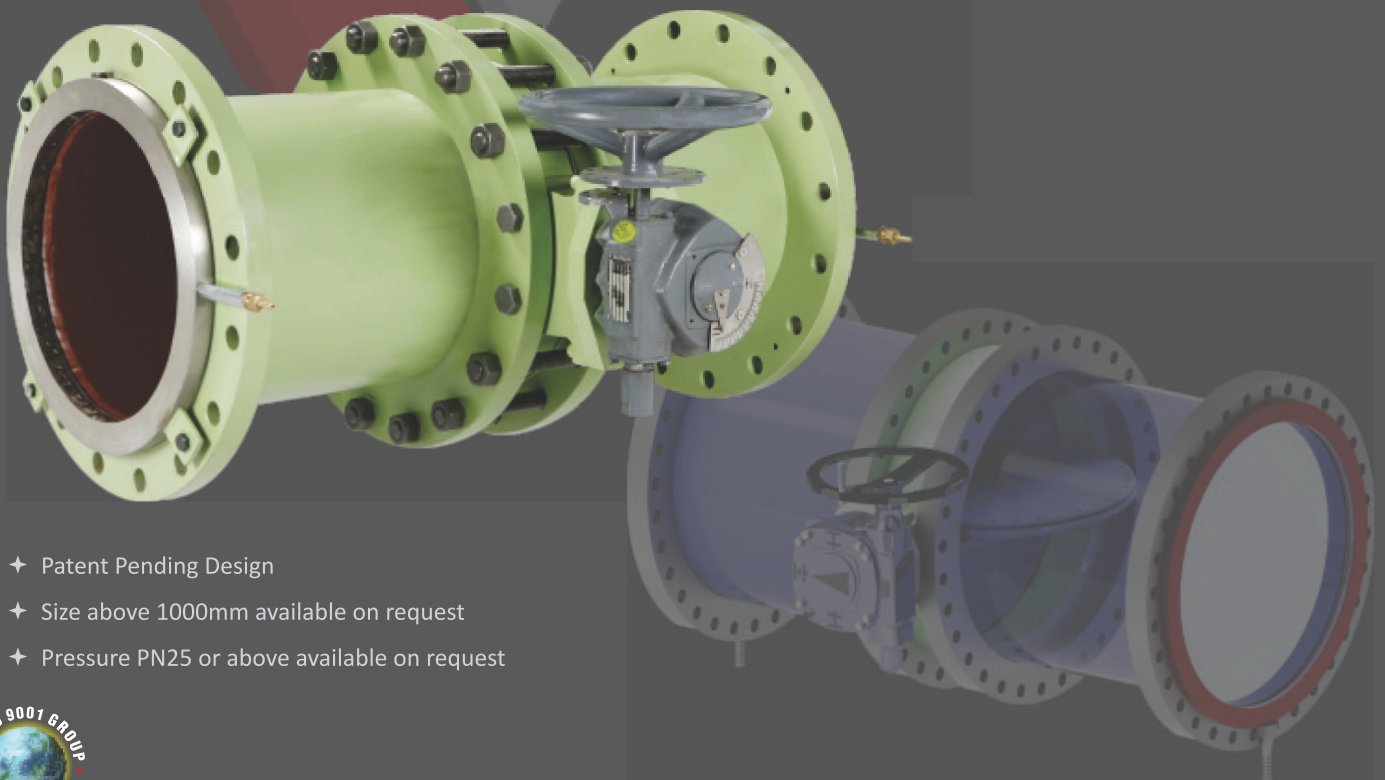
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## LARGE SIZE BALANCING VALVE

- Available in size upto 1000mm (40")
- Precise Double Regulation and Flow Measurement within 2.5D or less
- Valve Rating PN16 and PN20
- Positive Shutoff High Performance Butterfly Valve
- EPDM Seal
- Stainless Steel construction for critical components
- Zero Backlash Gear Box with 1 degree accuracy of setting
- Tamper Proof Locking
- Open position memory setting
- With Pressure Test Cocks



- ✦ Patent Pending Design
- ✦ Size above 1000mm available on request
- ✦ Pressure PN25 or above available on request



*Changing the way you think about valves...*

### CONSTRUCTION AND TECHNICAL INFORMATION

Advance Large Size Balancing Valves, a first in the world design by Advance, is a unique Manual Balancing solution for the present trend of large size HVAC and district cooling plants, optimizing space, and integrating all features into a single valve. The valve is designed using state of the art CFD tools validated on in-house flow test bed.

**CONSTRUCTION:** High Performance (double eccentric) Soft Seated Butterfly Valve as regulating member with a unique precisely engineered differential pressure measurement system that includes two measuring rings designed to read average static pressure at the pipe cross sections.

**GEARBOX:** The valve operation is by custom built zero backlash gearbox. The gearbox is capable of setting valve opening angle within  $\pm 0.5^\circ$  providing a flow setting accuracy of  $\pm 7\%$ . The gearbox is provided with tamper **proof locking arrangement** to prevent unauthorised resetting or closing the valve. The gearbox is also provided with mechanical adjustable stop. This arrangement **prevents unauthorised resetting of the valve opening the maximum set value** but enabling closing the valve including total shut off.

**VALVE SELECTION:** Valve selection shall be normally made based on pipe size after ensuring the flow rate is within the minimum and maximum flow rate of the valve and pressure drop is around 200 to 500mm Hg.

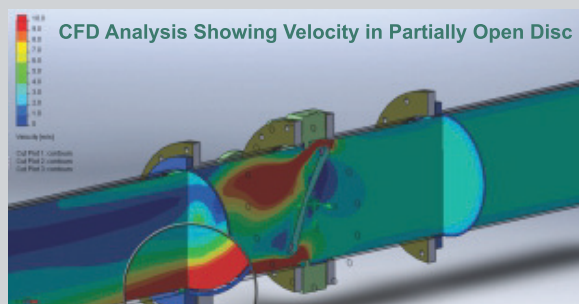
**INSTALLATION:** Valve may be installed in horizontal, vertical and slanting pipe lines. Differential pressure reading to be corrected for vertical and slanting installation. Minimum of 1D distance to be maintained between valve flanges to any other valves, fittings & equipments on upstream and down stream

**REGULATION:** Flow regulation in a wide range of  $20^\circ$  to  $70^\circ$  angle of opening. Changing the opening changes the valve Kv and provides flow regulation.

**FLOW MEASUREMENT & COMMISSIONING:** Valve is provided with two pressure taps and one set of pressure test quarter turn cocks. Pressure drop across the valve can be measured with ADVANCE digital differential Pressure Meter having instant couplings with the pressure test cocks. Pressure test cocks are opened by 1/4 turn using 6mm square double end spanner. Flow through the valve can be calculated by measuring differential pressure across the valve, noting the angle of opening of the valve and then using the published Kv value for the valve or ADVANCE Flow Computation Software. During purging of pipe line ensure that the measuring rings are replaced with dummy flanges to avoid blocking of pressure taps.

**OPTIONAL:** Hand held digital Differential Pressure Meter, Auto closing, PT plugs, MT extension

**SOFTWARE & SERVICES:** ADVANCE Flow Computation Software and System Balancing Software that work with the Hand held digital Manometer are available on request. Advance also provides On-site Water Balancing Services to achieve maximum energy saving right from commissioning



**Size Range:** DN 350 to DN1000

**Pressure Rating:** PN 16 Standard, PN 20 Optional

**Temperature:**  $-40^\circ\text{C}$  to  $120^\circ\text{C}$

**Fluid:** Chilled Water / Glycol solution

**Face To face Distance:** As per ISO 5752 Table 8 (Globe Valves)

**Valve Model:** Flanged as per IS 6392 PN 16 as standard Others optional

**Flow measurement:** accuracy :  $\pm 7\%$

**Maximum flow:** Upto 5m/s fluid velocity

**BODY - PN 16:** Cast iron FG 260

- **PN 20:** SG Iron IS 1865 Gr 450 / 10

**DISC:** SG iron IS 1865 Gr 450/10 or Eq

**SEAL:** EPDM (Elastomer)

**SHAFT/STEM:** SS 431

**TRIM and measuring Rings:** SS 304 or equivalent

**Body Extension, Flanges:** Low carbon steel IS 2062 or Eq

**Worm Gear box:** Body and worm wheel in SG Iron and SS 410 worm

**Testing:**

♦ Hydro Testing

	Shell (Body)	Seat
PN-16	24 bar (g)	17.6 bar (g)
PN-20	30 bar (g)	22 bar (g)

**Direction of Flow:** Marked on the Valve Body

VALVE DATA TABLE

Valve Size (DN)	Face to Face (mm)	Minimum Flow (M3/Hr)	Maximum Flow (M3/Hr)	Weight (Kg)
350	980	105	1730	317
400	1100	145	2260	396
450	1200	155	2860	520
500	1250	175	3535	657
600	1450	235	5090	797
700	1650	335	6930	1320
750	1750	430	7950	1578
800	1850	590	9050	1780
900	2050	1230	11450	2217
1000	2250	2065	14000	3500

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