

BALANCING VALVE SOLUTIONS

RWV Hydronic Controls



RWV®

Fixed Orifice Static Balancing Valves

951x series

Features

- Fixed orifice for constant Cv and max. performance
- Fast & easy calibration
- Venturi insert for optimal accuracy $\pm 3\%$
- PTFE seat guarantees positive shut-off function
- Integral Memory Stop
- Can be used as shut off without resetting position
- Wide range of flow available
- Intended for HVAC & domestic water use

DZR brass construction - corrosion resistant
 300WOG max. pressure
 300psi at ambient conditions to 160°F
 150psi max. pressure rating at 260°F

FNPT, MNPT, Solder, EzPress and **PEX** connections available
 Available in Lead Free configurations



9517



Fixed orifice valve provides greater efficiency than a variable orifice

Models

- 9517** --- FNPT ends
- 9519** --- Solder ends
- 9517AB** --- FNPT ends LEAD FREE
- 9519AB** --- Solder ends LEAD FREE
- 9517T-xx** --- Union ends with tailpieces
- 9517IBV-xy** --- Union ends with tailpiece and Isolation Ball Valve

- x can be --- **M**: Male Tailpiece **F**: Female Tailpiece **S**: Solder Tailpiece
- P**: EzPress Tailpiece **E**: PEX F1960 Tailpiece
- y can be --- **F**: Female IBV **S**: Solder IBV **P**: EzPress IBV **E**: PEX F1960 IBV

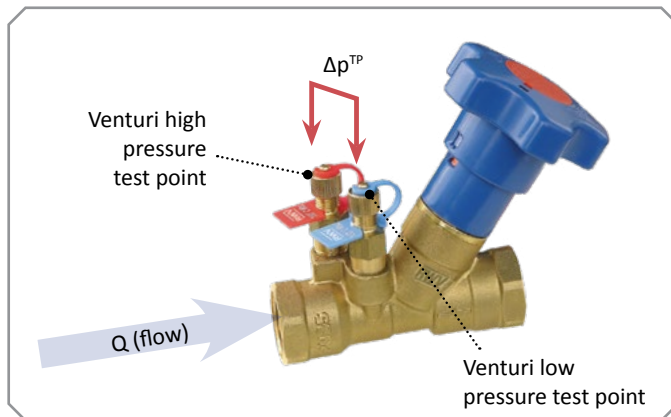


9517T-PP



Flow Range

0.12 GPM - 55.63 GPM



9517IBV-MF

Size	X-1/2"	U-1/2"	L-1/2"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Flow range (GPM)	0.12 - 0.36	0.27 - 0.71	0.49 - 1.17	0.98 - 2.35	2.19 - 5.15	4.09 - 9.56	8.56 - 19.81	12.84 - 29.80	24.09 - 55.63

* 1/2" - 2" for 9517 and 9519
 U-1/2" - 1" for 9517T

952x series

Features

Variable orifice terminal balancing valve
 Globe design
 Can be used as shut off without resetting position
 Intended for HVAC & domestic water use

300WOG max. pressure
 300psi at ambient conditions to 160°F
 150psi maximum pressure rating at 260°F
 Threaded & Solder connections
 Lead Free standard
 Valve upstream and downstream test ports standard



Models

9527AB --- Threaded connections LEAD FREE

9529AB --- Solder connections LEAD FREE



Flow Range

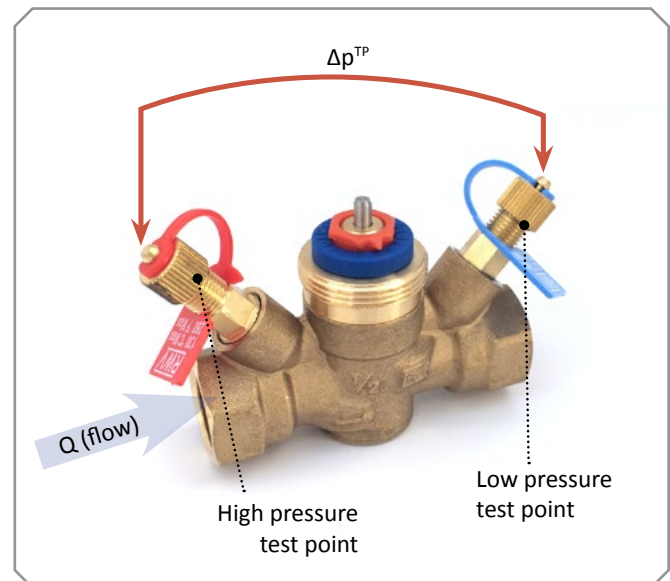
0.49 GPM - 55.63 GPM

Size	L-1/2"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
Flow range (GPM)	0.49-1.17	0.98-2.35	2.19-5.15	4.09-9.56	8.56-19.81	12.84-29.80	24.09-55.63

* 1/2" - 3/4" for 9529AB



The 9520 series can be utilized together with Vairien series of linear actuators for ON/OFF operation. The actuator can be easily mounted to the valve for direct interface with the building management system.

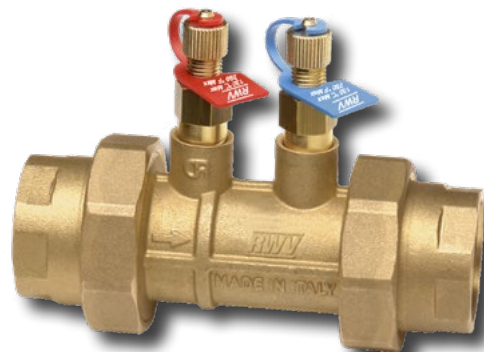


Automatic Balancing Valves

9907 series

Features

- Automatically maintains desired flow rate
- Efficient "in-line" body design
- Interchangeable flow cartridges
- Stainless steel spring and piston
- Flow regulation accuracy $\pm 5\%$
- Multiple connections
- Available with integral isolation ball valve for positive shut-off
- Valve upstream and downstream test ports standard



9907T-FF

DZR brass construction - corrosion resistant
 300WOG max. pressure
 300psi at ambient conditions to 160°F
 150psi maximum pressure rating at 260°F
FNPT, MNPT, Solder, EzPress and **PEX** connections available
 Cartridge is DZR brass with stainless steel spring and piston

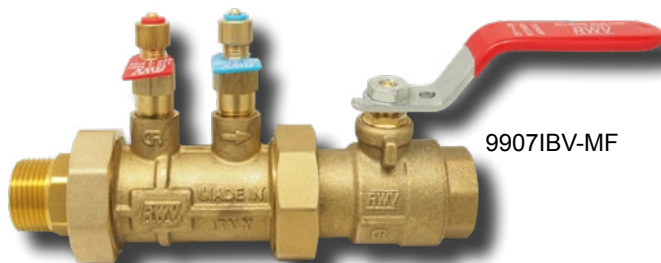
Models

- 9907T-xx** --- Union ends with tailpieces
- 9907IBV-xy** --- Union ends with tailpiece and isolation ball valve

- x can be ---- **M**: Male Tailpiece **F**: Female Tailpiece **S**: Solder Tailpiece
 P: EzPress Tailpiece **E**: PEX F1960 Tailpiece
- y can be ---- **F**: Female IBV **S**: Solder IBV
 P: EzPress IBV **E**: PEX F1960 IBV

Flow Range

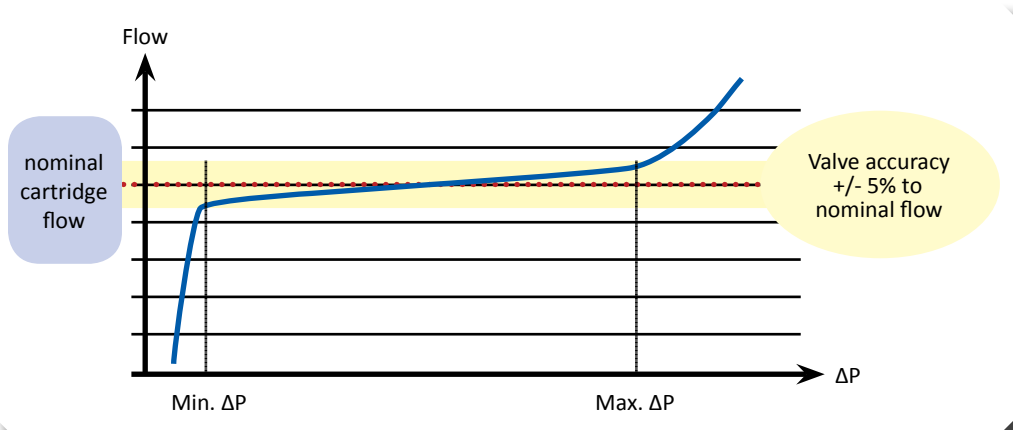
1/2" - 3/4"-L	0.32 GPM - 3.17 GPM
3/4" - 1-1/4"L	2.06 GPM - 15.1 GPM
1-1/4" - 2"	7.29 GPM - 41.2 GPM
2"-H	25.4 GPM - 127 GPM



9907IBV-MF

Cartridges

Cartridges available in different ranges of working differential pressure, the minimum and maximum working ΔP therefore depend on the specific cartridge model.
 A numeric code is marked on the cartridge body identifying it.



1/2" 3/4"-L

Mini

RWV Code	Flow (GPM)	RangeΔP (psi)
KRR991202.1880	0.32	2.2-25
KRR991203.1880	0.48	2.3-32
KRR991204.1880	0.63	2.3-32
KRR991205.1880	0.79	2.3-32
KRR991206.1880	0.95	2.3-32
KRR991207.1880	1.11	2.3-32
KRR991208.1880	1.27	2.3-32
KRR991209.1880	1.43	2.3-32
KRR991210.1880	1.59	2.3-32
KRR991211.1880	1.74	2.5-32
KRR991212.1880	1.90	2.5-32
KRR991213.1880	2.06	2.5-32
KRR991214.1880	2.22	2.5-32
KRR991215.1880	2.38	2.5-32
KRR991216.1880	2.54	2.5-32
KRR991218.1880	2.85	2.6-32
KRR991220.1880	3.17	2.8-32

3/4" 1" 1 1/4"-L

Small (Standard Pressure Range)

RWV Code	Flow (GPM)	RangeΔP (psi)
KRR992213.1880	2.06	2.5-35
KRR992215.1880	2.38	2.5-35
KRR992217.1880	2.69	2.5-35
KRR992219.1880	3.01	2.5-35
KRR992221.1880	3.33	2.6-35
KRR992224.1880	3.80	2.6-35
KRR992227.1880	4.28	2.6-35
KRR992230.1880	4.76	2.6-35
KRR992233.1880	5.23	2.6-35
KRR992236.1880	5.71	2.6-35
KRR992240.1880	6.34	2.6-35
KRR992245.1880	7.13	2.8-35
KRR992250.1880	7.93	2.8-35
KRR992255.1880	8.72	3.0-35
KRR992260.1880	9.51	3.2-35
KRR992266.1880	10.5	3.5-35
KRR992272.1880	11.4	3.5-35

3/4" 1" 1 1/4"-L

Small (High Pressure Range)

RWV Code	Flow (GPM)	RangeΔP (psi)
KRR992318.1880	2.85	4.2-64
KRR992320.1880	3.17	4.6-64
KRR992323.1880	3.65	4.8-64
KRR992327.1880	3.96	4.8-64
KRR992329.1880	4.60	4.8-64
KRR992332.1880	5.07	4.8-64
KRR992336.1880	5.71	4.8-64
KRR992340.1880	6.34	4.8-64
KRR992345.1880	7.13	4.8-64
KRR992350.1880	7.93	4.8-64
KRR992355.1880	8.72	4.9-64
KRR992361.1880	9.67	5.2-64
KRR992368.1880	10.8	5.2-64
KRR992375.1880	11.9	5.2-64
KRR992380.1880	12.7	5.2-64
KRR992386.1880	13.6	5.8-64
KRR992395.1880	15.1	5.8-64

1 1/4" 1 1/2" 2"

Medium (Standard Pressure Range)

RWV Code	Flow (GPM)	RangeΔP (psi)
KRR994246.1880	7.29	2.0-33
KRR994250.1880	7.93	2.0-33
KRR994255.1880	8.72	2.0-33
KRR994258.1880	9.19	2.0-33
KRR994262.1880	9.83	2.0-33
KRR994267.1880	10.6	2.2-33
KRR994274.1880	11.7	2.2-33
KRR994283.1880	13.2	2.2-33
KRR994290.1880	14.3	2.2-33
KRR994297.1880	15.4	2.2-33
KRR994210.1880	16.6	2.2-33
KRR994212.1880	19.0	2.2-33
KRR994213.1880	20.6	2.3-33
KRR994214.1880	22.8	2.5-33
KRR994216.1880	24.7	2.5-33
KRR994217.1880	26.6	2.6-33
KRR994218.1880	28.5	2.8-33
KRR994220.1880	31.1	2.8-33

1 1/4" 1 1/2" 2"

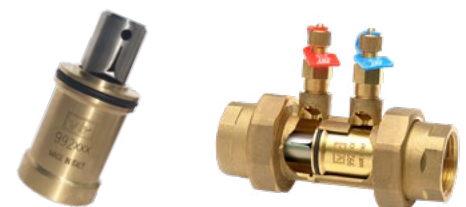
Medium (High Pressure Range)

RWV Code	Flow (GPM)	RangeΔP (psi)
KRR994362.1880	9.83	3.9-61
KRR994368.1880	10.8	3.9-61
KRR994374.1880	11.7	3.9-61
KRR994379.1880	12.5	3.9-61
KRR994383.1880	13.2	3.9-61
KRR994391.1880	14.4	4.1-61
KRR994310.1880	15.9	4.1-61
KRR994311.1880	17.6	4.1-61
KRR994312.1880	19.0	4.2-61
KRR994313.1880	20.6	4.2-61
KRR994314.1880	22.0	4.2-61
KRR994316.1880	26.0	4.4-61
KRR994318.1880	27.7	4.5-61
KRR994319.1880	30.1	4.5-61
KRR994321.1880	32.7	4.6-61
KRR994322.1880	35.4	4.9-61
KRR994324.1880	38.0	5.1-61
KRR994326.1880	41.2	5.5-61

2"-H

Large

RWV Code	Flow (GPM)	RangeΔP (psi)
KRR996216.1880	25.4	2.0-33
KRR996218.1880	28.5	2.0-33
KRR996220.1880	31.7	2.0-33
KRR996222.1880	34.9	2.2-33
KRR996224.1880	38.0	2.2-33
KRR996227.1880	42.8	2.2-33
KRR996230.1880	47.6	2.3-33
KRR996233.1880	52.3	2.3-33
KRR996236.1880	57.1	2.3-33
KRR996240.1880	63.4	2.5-33
KRR996245.1880	71.3	2.5-33
KRR996250.1880	79.3	2.8-33
KRR996255.1890	87.2	2.8-33
KRR996260.1880	95.1	3.0-33
KRR996266.1880	105	3.0-33
KRR996273.1880	116	3.6-33
KRR996280.1880	127	4.1-33



Pressure Independent Control Valves (PICV)

9707 series

Features

- Pressure independent control valve (PICV)
- Threaded M/M for union ends (ASME B1.20.1 - NPSM)
- Max. ΔP working pressure 60psi
- 100% full stroke modulation, independent of valve setting
- M30x1.5 threads for linear actuator
- Available with integral isolation ball valve for positive shut-off
- Valve upstream and downstream test ports standard

- DZR brass construction
- 300WOG
- FNPT, MNPT, and Solder** tailpieces available

- Working conditions
- Water: 15°F - 260°F
 - below 32°F only for water with added antifreezing fluids
 - over 212°F only for water with added anti-boiling fluids
 - (Ethylene-glycolic and propylene-glycolic mixtures up to 50% may be used)

Model

- 9707R** --- PICV
- 9707T** --- PICV with tailpieces
- 9707IBV** --- PICV with isolation ball valve and tailpiece

Flow Range

0.12 GPM - 15.9 GPM



9707R



9707T



9707IBV



The 9707R can be utilized together with Vaurien series of linear actuators for ON/OFF or Modulating (0-10V) operations. The actuator can be easily mounted to the valve for direct interface with the building management system.

Vaurien-M

Features

Modulating electromechanical linear actuator
 Suitable for RWV 9707 valve
 M30x1.5 threaded connection
 With 78in electric wire
 Enclosure protection IP54
 Power supply 50Hz/60Hz, 24V AC/DC, power 1.5W
 Max stroke 0.236in, auto stroke detection
 Auto-zero self calibration
 Auto-stroke detection
 Stroke time 2sec/0.01in, thrust 29lbf
 CE compliant

0-10V control signal
 (adjustable for 0-5VDC, 5-10VDC, 2-10VDC, 0-20mA or 4-20mA)
 Linear characteristic (adjustable for equal-percentage characteristic)
 Working ambient temperature: 32° to +122°F
 Working fluid temperature: 32° to +203°F



Vaurien-1 / Vaurien-2

Features

ON/OFF linear actuator with threaded connection
 Suitable for RWV 9520 series and RWV 9707R valves
 M30x1.5 threaded nut with fast connection (*)
 With 40in electric wire
 Enclosure protection IP54/NEMA3
 Power supply 50Hz/60Hz
 Normally closed (NC)
 Working temperature: 32°F to +140°F

Model	Power supply	Thrust	Stroke	Travel Time
Vaurien 1	24VDC	22.5lbf	0.15in	≈3.5min
Vaurien 2	24VDC	28.1lbf	0.25in	≈4.5min

Vaurien Actuator



Standard Kit Configuration

Coil Hook Up Kits

Supplied with:

Balancing Valves:

CKS - 9517/9519
Static, Fixed Orifice
(Venturi Insert)

CKM - 9527AB/9529AB
Variable Orifice

CKA - 9907IBV
Automatic

CKP - 9707IBV
Pressure Independent Control

Accessories:

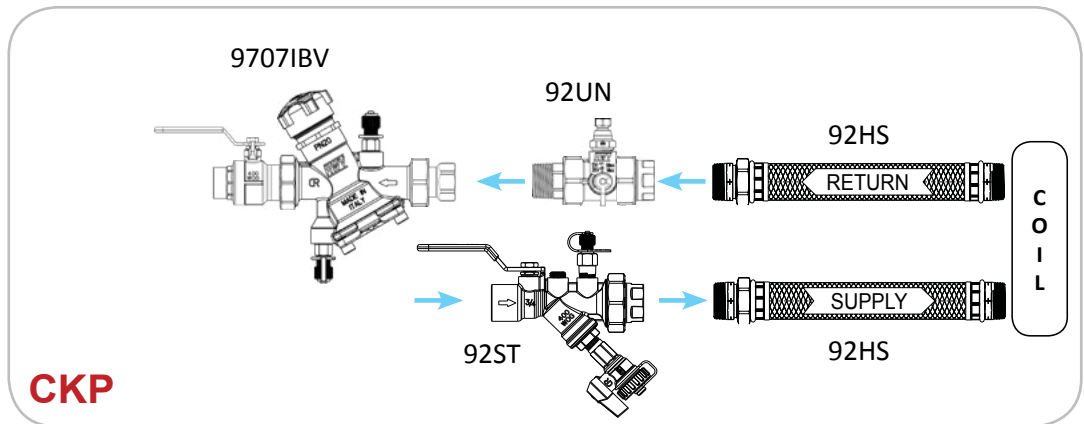
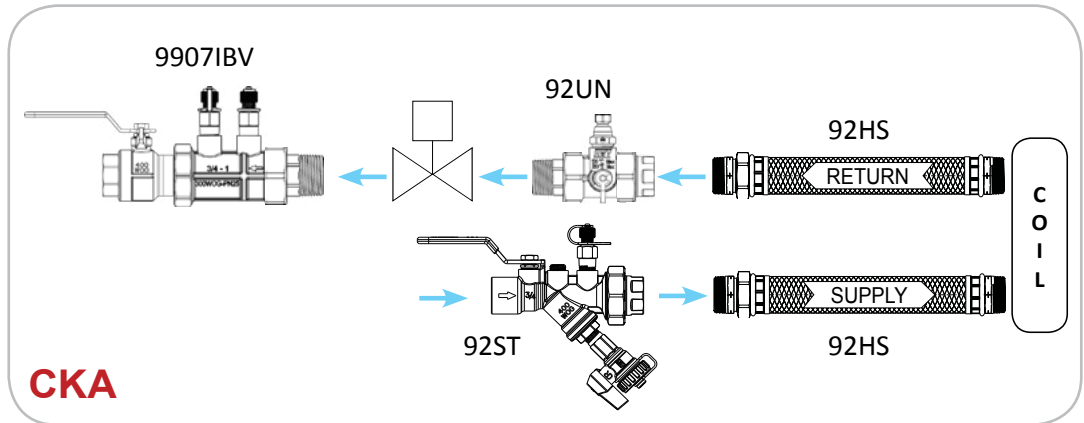
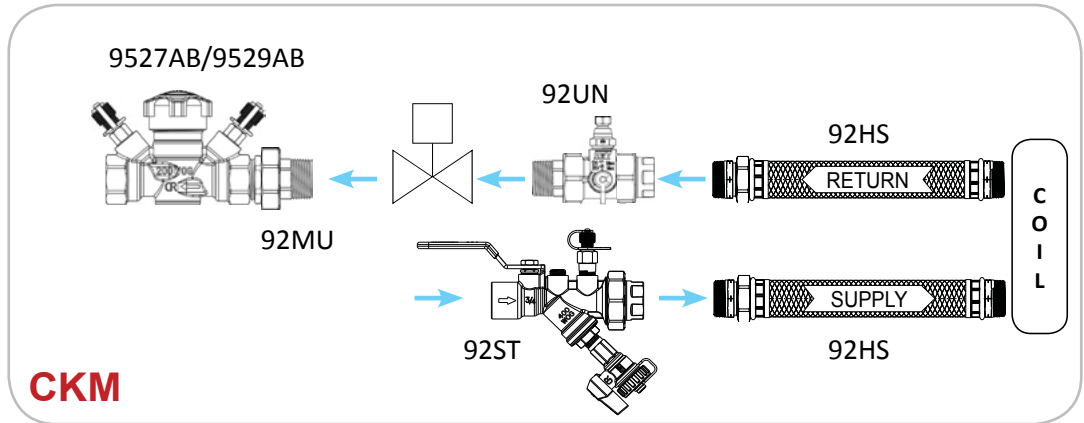
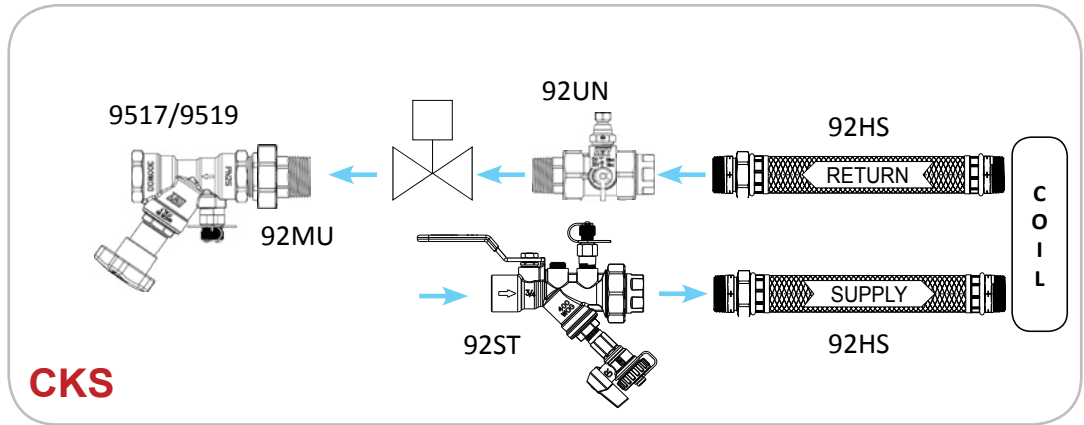
92HS
Stainless Steel Braided Hoses (2)

92ST
Strainer with Shut off,
or
92UDT
Union Ball Valve

92UN
Union with Air Vent

92MU
Male Micro Union

- * Additional components as required
- * Vacuum sealed to corrugated backing



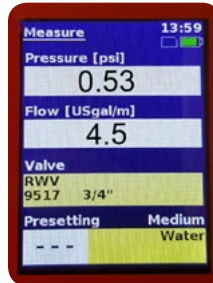
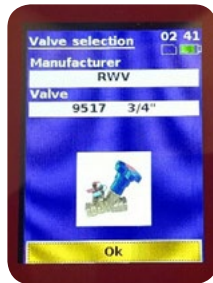
T550RWV



Features

- Memory capacity up to 20,000 records
- Anti-freeze media correction
- Working with projects
- Project measuring with the possibility of printed balancing report
- Li-ion rechargeable battery with USB charger
- Mini USB PC interface
- Ergonomic device case
- QVGA RGB 2.2 inch, 240 x 320 pixel backlight display
- Memory capacity up to 1,200 valves
- Simple valve detection by valve image
- Programmable recording of measured values
- IP65 cover

* Used with 951x Fixed Orifice Manual Balancing Valves enables flow rate reading in real time without the need of the charts

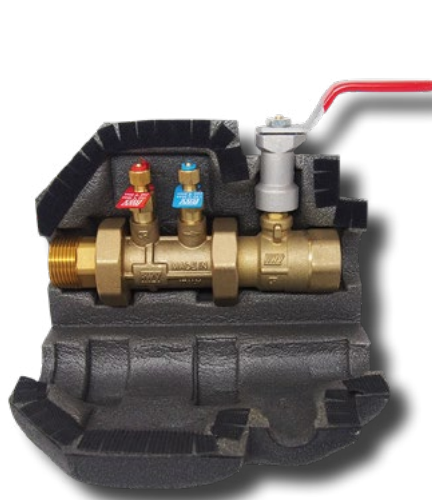


95INSL / 99INSL

Features

- Polyethylene Foam Insulation
- Self-sealing wrap

Working temperature: -76°F - 200°F



99INSL



95INSL

Iron Flange Static Balancing Valve / Metering Station

9574P

Features

- Variable orifice cast iron balancing valve
- Precision Adjustable Handwheel
- Flat face flange ends to ANSI B16.10
- Flanges drilled according to ASME B16.1 class 125
- Acrylic painted surface
- Valve accuracy $\pm 5\%$ to nominal Cv value
- Threaded and capped test ports
- PT ports included with valves (not mounted)

Flow Range

24.09 GPM - 4057 GPM



Size	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
Flow range (GPM)	24.09 - 55.63	47.9 - 110	101 - 244	172 - 413	267 - 630	376 - 902	664 - 1593	1055 - 2485	1493 - 4057

9450A

- Stainless steel wafer orifice plate
- For ANSI 125 or ANSI 150 flanges
- Design according to BS7350

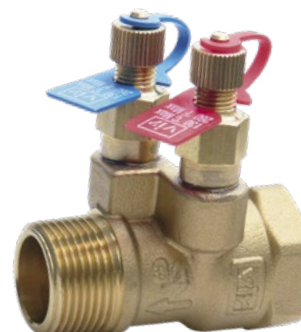
The orifice plate can be installed together with the same size of 9574P.



9407

- DZR Brass metering station
- FNPT x MNPT
- Design according to BS7350

Venturi insert for optimal accuracy $\pm 3\%$ (test according to BS7350)



9957W

Features

- Ductile iron wafer automatic balancing valve
- For ASME B16.42 class 150 flanges
- Provided with eyebolt for DN≥4"
- Wide range of flows available (see cartridge section)
- Test points with extension included (not mounted)
- Class 150

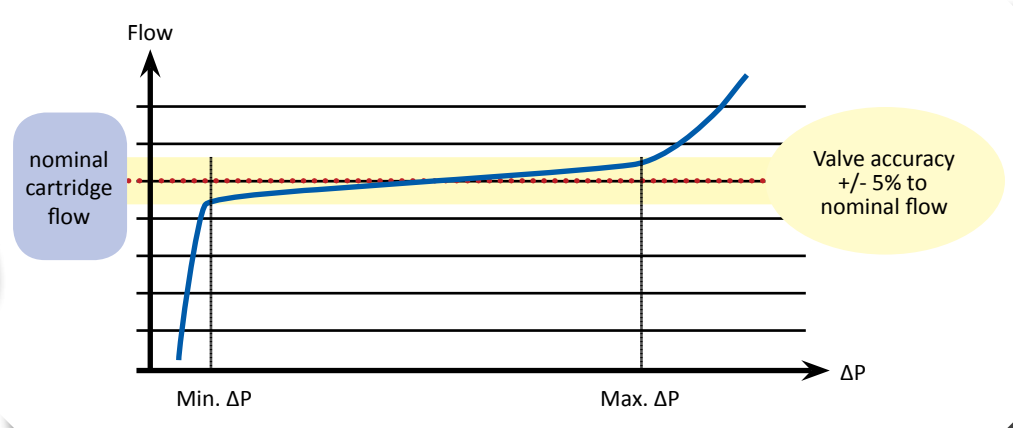
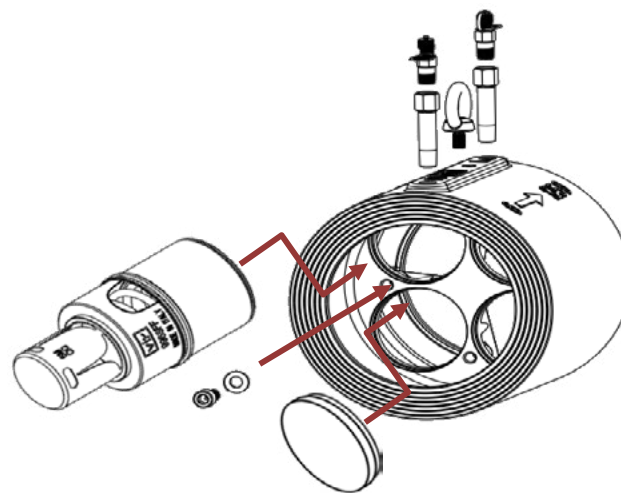
Flow Range

- 25.4GPM to 127GPM for 2½" and 3" (single cartridge)
- Higher flows available with the multi cartridge system for DN≥4"
- Minimum working ΔP depending on cartridge configuration



Size	2-½"	3"	4"	5"	6"	8"	10"	12"
Flow range (GPM)	25.4 - 127	25.4 - 127	25.4 - 254	25.4 - 381	25.4 - 508	25.4 - 889	25.4 - 1270	25.4 - 1778

RWV Code	Flow (GPM)	Range ΔP (psi)
KRR996216.1880	25.4	2.0-33
KRR996218.1880	28.5	2.0-33
KRR996220.1880	31.7	2.0-33
KRR996222.1880	34.9	2.2-33
KRR996224.1880	38.0	2.2-33
KRR996227.1880	42.8	2.2-33
KRR996230.1880	47.6	2.3-33
KRR996233.1880	52.3	2.3-33
KRR996236.1880	57.1	2.3-33
KRR996240.1880	63.4	2.5-33
KRR996245.1880	71.3	2.5-33
KRR996250.1880	79.3	2.8-33
KRR996255.1880	87.2	2.8-33
KRR996260.1880	95.1	3.0-33
KRR996266.1880	105	3.0-33
KRR996273.1880	116	3.6-33
KRR996280.1880	127	4.1-33



92UN

Features

DZR brass union body with manual air vent and test point

Body available:

FNPT (ASME B1.20.1 - NPT)

Solder (ASME B16.22)

Tailpiece available:

FNPT (ASME B1.20.1 - NPT)

MNPT (ASME B1.20.1 - NPT)

Solder (ASME B16.22)

400WOG

Working conditions:

Water: from 15°F to 260°F

below 32°F only for water with added antifreezing fluids

over 212°F only for water with added anti-boiling fluids



92MU

Features

DZR brass union

Body end MNPT (ASME B1.20.1)

Tailpiece available:

FNPT (ASME B1.20.1 - NPT)

MNPT (ASME B1.20.1 - NPT)

Solder (ASME B16.22)

PEX (ASME F1960)

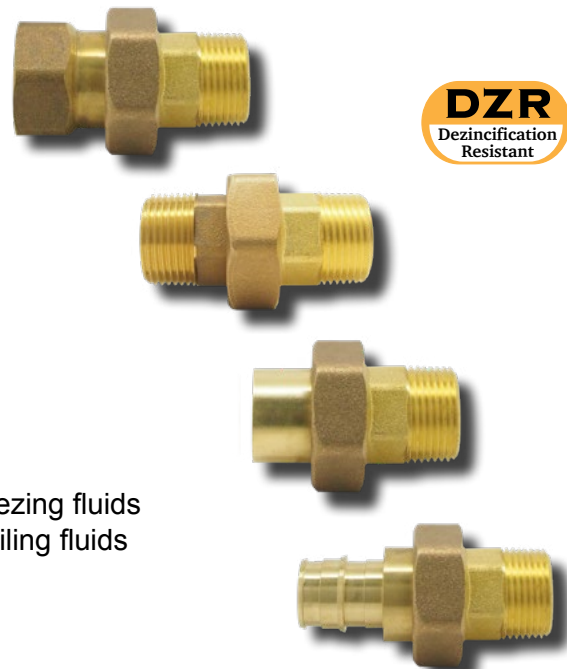
400WOG

Working conditions:

Water: from 15°F to 260°F

below 32°F only for water with added antifreezing fluids

over 212°F only for water with added anti-boiling fluids



92UBT / 92UBS / 92UBP

Features

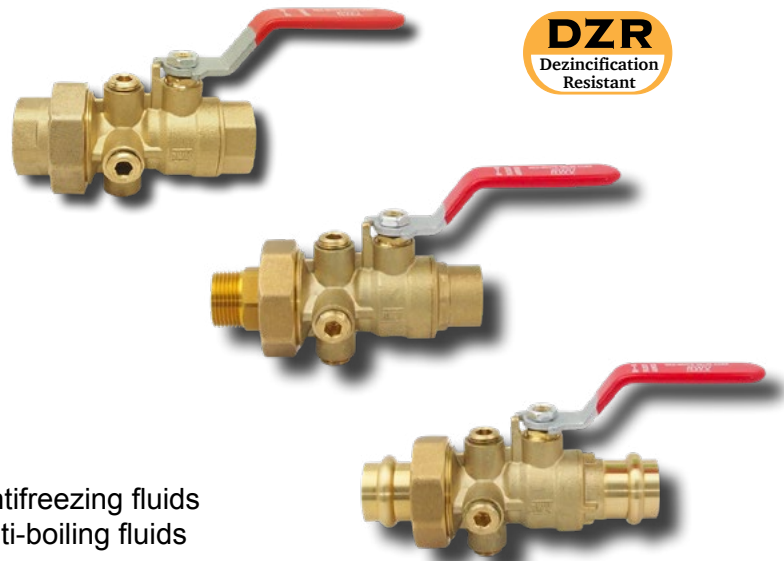
DZR brass union ball valve
Blow-out proof stem
Adjustable packing nut
Full port
Three tapped ¼" port

600WOG @ 160°F

Working conditions:

Water: from 15°F to 260°F

below 32°F only for water with added antifreezing fluids
over 212°F only for water with added anti-boiling fluids



92UDT / 92UDS / 92UDP

Features

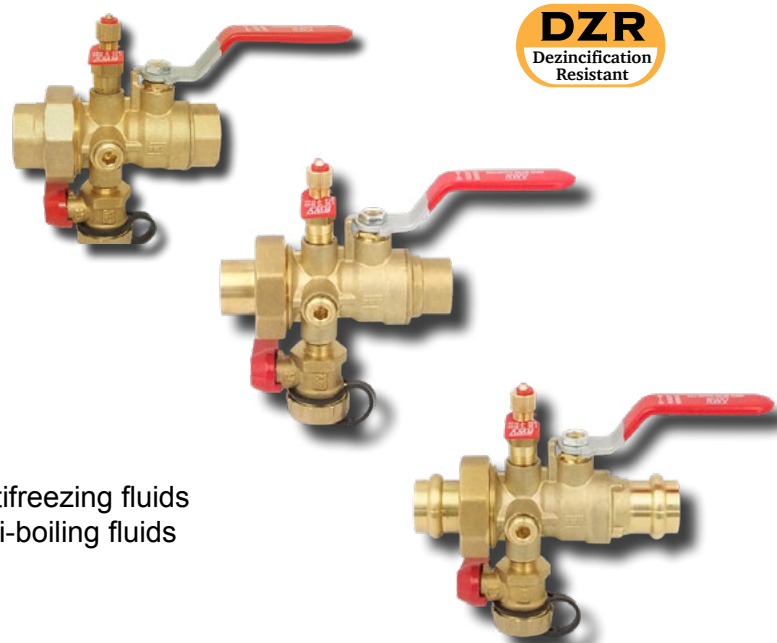
DZR brass union ball valve with drain
Blow-out proof stem
Adjustable packing nut
Full port
Blow down valve with capped ¾" hose end
One installed test point
One additional tapped ¼" port

600WOG @ 160°F

Working conditions:

Water: from 15°F to 260°F

below 32°F only for water with added antifreezing fluids
over 212°F only for water with added anti-boiling fluids



Models

92UBT & 92UDT --- Threaded end (ASME B1.20.1 - NPT) with union end
FNPT tailpiece standard, MNPT tailpiece option available

92UBS & 92UDS --- Solder end (ASME B16.22) with union end
Solder tailpiece standard, FNPT and MNPT tailpiece options available

92UBP & 92UDP --- EzPress end with union end
EzPress tailpiece standard, FNPT and MNPT options available

92ST / 92SS / 92SP

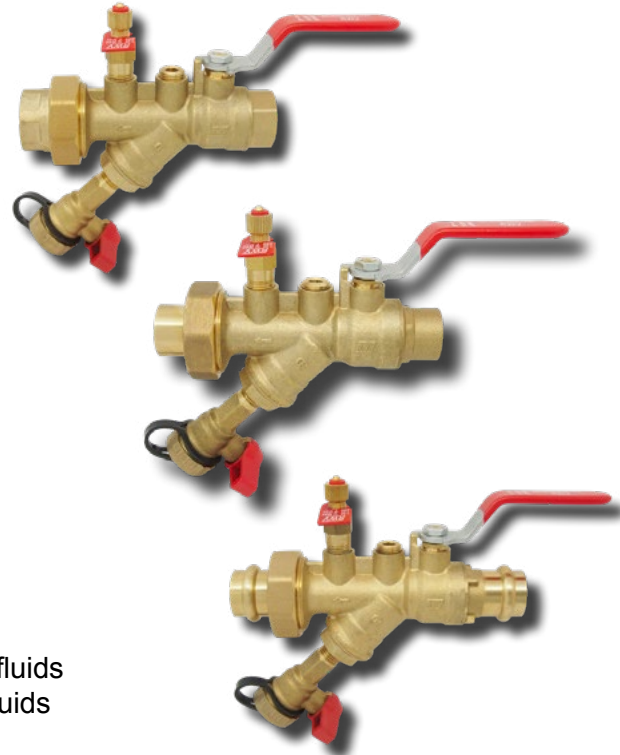
Features

- DZR brass ball valve - wye strainer combination
- Blow-out proof stem
- Adjustable packing nut
- Full port
- Y pattern strainer
- Stainless steel screen (20 mesh)
- Blow down valve with 3/4" hose end
- One installed test point
- One additional tapped 1/4" port

400WOG @ 160°F

Working conditions:

- Water: from 15°F to 260°F
- below 32°F only for water with added antifreezing fluids
- over 212°F only for water with added anti-boiling fluids



92ST-BY / 92SS-BY / 92SP-BY

Features

- DZR brass ball valve - wye strainer combination
- 1/2" port for bypass
- Blow-out proof stem
- Adjustable packing nut
- Full port
- Y pattern strainer
- Stainless steel screen (20 mesh)

400WOG @ 160°F

Working conditions:

- Water: from 15°F to 260°F
- below 32°F only for water with added antifreezing fluids
- over 212°F only for water with added anti-boiling fluids



Models

- 92ST & 92ST-BY** --- Threaded end (ASME B1.20.1 - NPT) with union end
FNPT tailpiece standard, MNPT tailpiece option available
- 92SS & 92SS-BY** --- Solder end (ASME B16.22) with union end
Solder tailpiece standard, FNPT and MNPT tailpiece options available
- 92SP & 92SP-BY** --- EzPress end with union end
EzPress tailpiece standard, FNPT and MNPT tailpiece options available

92STC / 92SSC / 92SEC

Features

- DZR brass ball valve - wye strainer combination
- Blow-out proof stem
- Adjustable packing nut
- Regular port
- Y pattern strainer
- Stainless steel screen (20 mesh)
- Blow down valve with $\frac{3}{4}$ " hose end
- One installed test point
- Two additional tapped $\frac{1}{4}$ " port

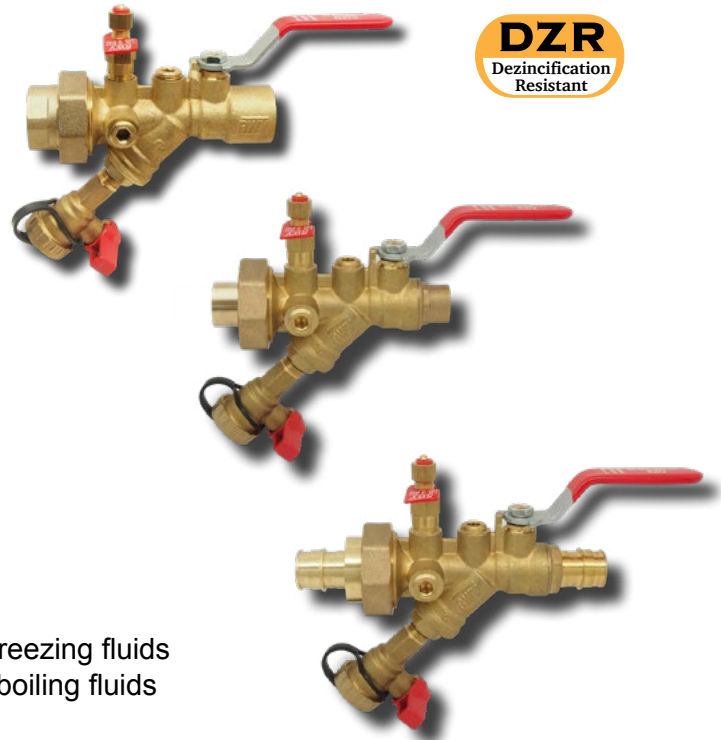
400WOG @ 160°F

Working conditions:

- Water: from 15°F to 260°F
- below 32°F only for water with added antifreezing fluids
- over 212°F only for water with added anti-boiling fluids

Models

- 92STC** --- Threaded end (ASME B1.20.1 - NPT) with union end, FNPT tailpiece
- 92SSC** --- Solder end (ASME B16.22) with union end, Solder tailpiece
- 92SEC** --- PEX end (F1960) with union end, PEX, FNPT or Solder tailpiece options available



92HS

Features

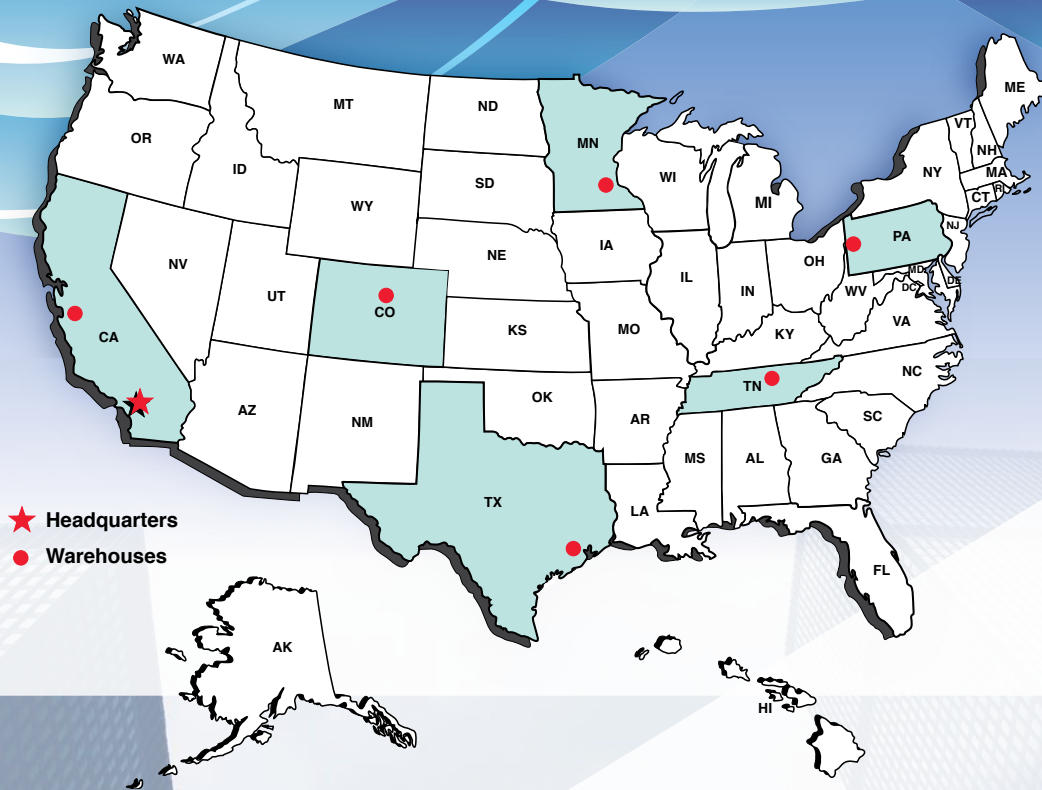
- Flexible hose
- EPDM hose, fire retardant stainless steel braided

Models

- 92HS-MM** --- MNPT end with swivel MNPT end
- 92HS-MS** --- MNPT end with swivel Solder end
- 92HS-MF** --- MNPT end with swivel FNPT end



Leaders In Valve Technology



- ★ Headquarters
- Warehouses

US Locations

Headquarters

Lake Forest, California ----- 800.222.RWVC

Warehouse Locations

Menlo Park, California ----- 650.566.9260

Arvada, Colorado ----- 303.375.1515

Lakeville, Minnesota ----- 952.469.2191

Hermitage, Pennsylvania ----- 724.981.5500

Nashville, Tennessee ----- 615.350.8334

Houston, Texas ----- 281.448.1782

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