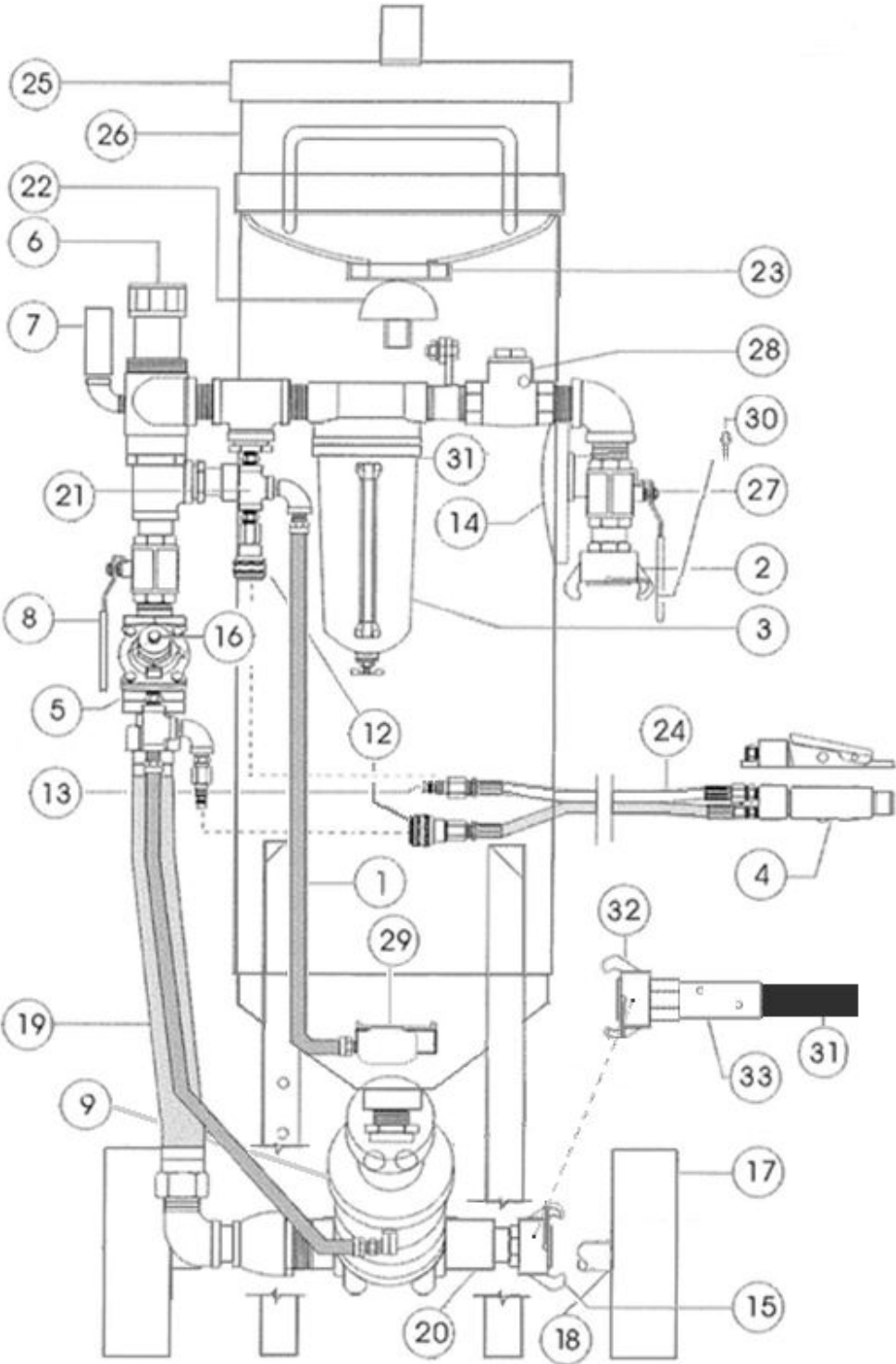
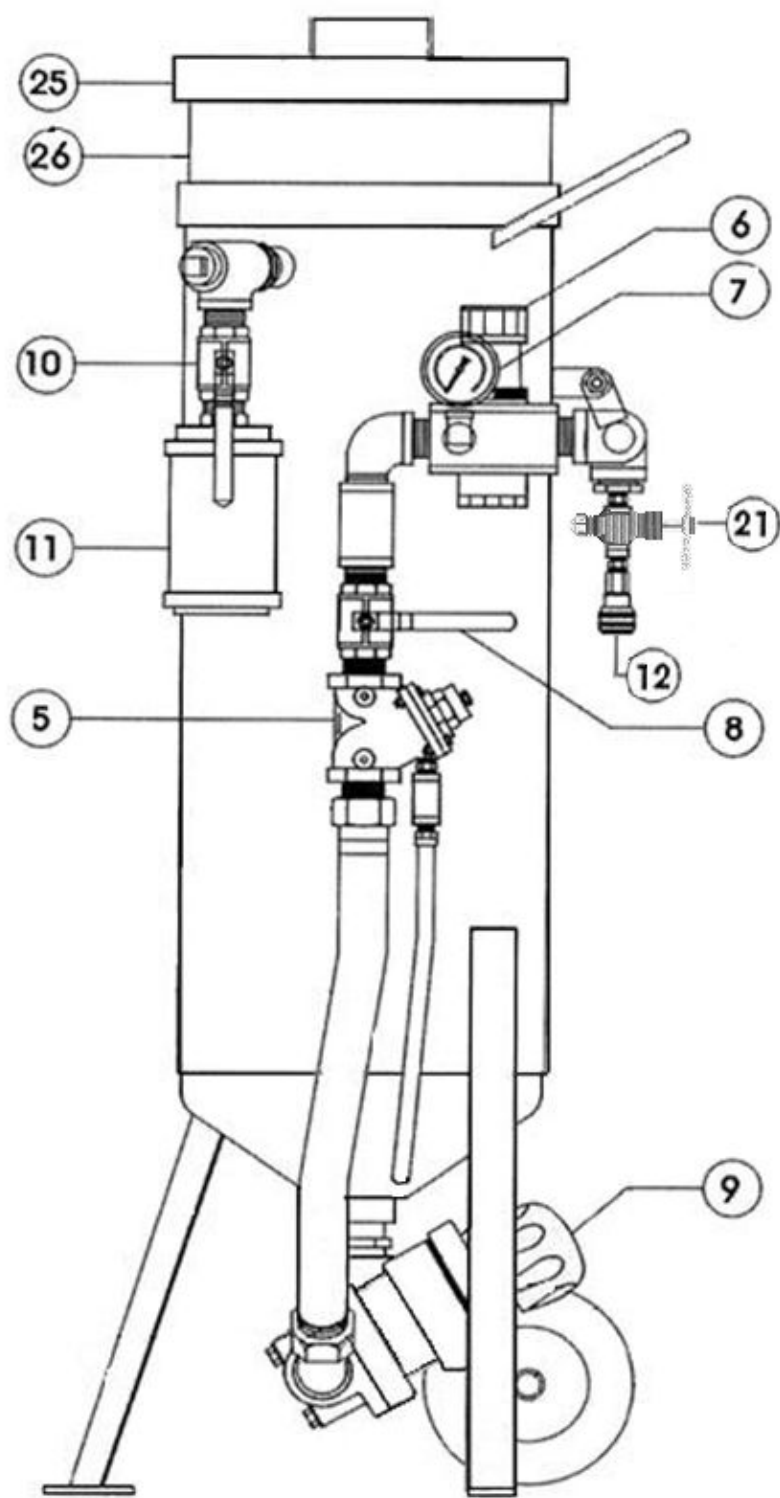


ROTEC® VORTEX Drawings



Equipment Drawing

ROTEC® VORTEX Drawings



Equipment Drawing

ROTEC® VORTEX Drawings

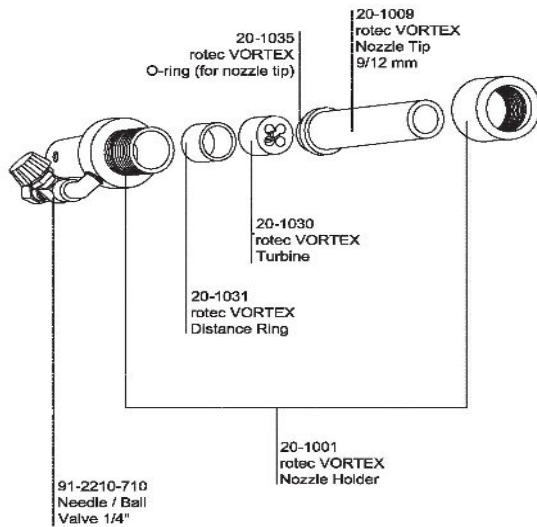
DW #	Parts #	Description	Unit Price
N	20-1000	ROTEC® VORTEX Nozzle Assembly (includes *)	\$ 1,875.00
N-1	20-1001	ROTEC® VORTEX Nozzle Holder *	\$ 330.00
N-2	20-1006	ROTEC® Nozzle Tip 6/12mm	\$ 600.00
N-2	20-1009	ROTEC® Nozzle Tip 9/12mm *	\$ 550.00
N-2	20-1011	ROTEC® Nozzle Tip 11/16mm	\$ 600.00
N-6	20-1030	ROTEC® Turbine for VORTEX Nozzle *	\$ 510.00
N-7	20-1031	ROTEC® Distance Ring for VORTEX Nozzle *	\$ 38.00
N-5	20-1035	ROTEC® O-ring for Nozzle Tip *	\$ 6.00
	20-6411	ROTEC® Washdown Assembly *	\$ 640.00
22	2100-000	Pop Up Valve Stem	\$ 80.00
23	2100-001	Pop Up Valve Gasket	\$ 55.00
	2100-99	Pop Up Valve Kit	\$ 135.00
16	2123-006-25	Auto Valve N/C-Breather Vent Brass 1/8" 90 micron	\$ 20.00
T-1	2149-000-01	Thompson Valve Knob -Non-Stocking	\$ 71.00
T-2	2149-000-02	Thompson Valve Cap -Non-Stocking	\$ 104.00
T-4	2149-000-03	Thompson Valve Spring -Non-Stocking	\$ 52.00
R6	2149-000-04	Thompson Valve Piston Seal #	\$ 20.00
T-7	2149-000-05	Thompson Valve Piston -Non-Stocking	\$ 109.00
R7	2149-000-06	Thompson Valve Plunger Seal #	\$ 15.00
	2149-000-07	Thompson Valve Tungsten Carbide Plunger -Non-Stocking	\$ 431.00
T-5	2149-000-08	Thompson Valve Nut -Non-Stocking	\$ 5.00
T-9	2149-000-09	Thompson Valve Cylinder -Non-Stocking	\$ 405.00
	2149-000-10	Thompson Valve Plunger Seal -Non-Stocking	\$ 18.00
T-11	2149-000-11	Thompson Valve Base -Non-Stocking	\$ 180.00
	2149-000-18	Thompson Valve O-Ring -Non-Stocking	\$ 5.00
T-3	2149-000-19	Thompson Valve Bump Ring -Non-Stocking	\$ 16.00
	2149-000-25	Vibration Disk #	\$ 20.00
20	2149-006-15	Thompson Valve Pipe Nipple 1"x 8"	\$ 190.00
T-13	2149-100-13	Thompson Valve Urethane Sleeve #	\$ 85.00
R4	2149-100-98	Rebuild Kit Thompson Valve	\$ 120.00
R2	2263-002-99	Rebuild Kit Deadman Switch	\$ 65.00
4	2263-002	Deadman Switch G2 Pneumatic	\$ 200.00
21	2430-804	Vibrator Control Valve	\$ 200.00
	36-8704	Air Hose Safety Cable -Non-Stocking	\$ 30.00
2	4101-002	Control Hose to TV -complete with fittings	\$ 75.00
19	4102-006	Red Air Hose Complete 1" x 12" (On Pot)	\$ 95.00
	4205-106-99	Hose Insert Gasket	\$ 5.00
25	5010-010	Top Lid, 12 inch	\$ 245.00
26	5010-011	Top Screen 12inch (3/32"mesh)	\$ 500.00
14	7000-001-06	Handway Gasket 6" x 8"	\$ 80.00
18	7040-003	Wheel Axle	\$ 112.00
	81-2211	Pressure Pot 1.5 cu. ft. 1" Port w/Thompson Valve	\$ 8,500.00
	81-3551	Air Aftercooler 120VAC w/Water Particle Filter	\$ 2,959.00

ROTEC® VORTEX Drawings

DW #	Parts #	Description	Unit Price
H	81-4010	Hose Coupler QK3/8 FPT x M PLG (High Pressure Water Hose)	\$ 7.00
H	81-4030	Hose Coupler QK3/8 FPR x F (High Pressure Water Hose)	\$ 14.00
	81-4040	Hose Coupler 22 MMF to 3/8 FSC	\$ 18.00
	81-4411	1000 PSI High Pressure Pump 120VAC w/Gauge	\$ 1,375.00
H-1	81-5112	50' Blast Hose Assembly with Deadman Switch	\$ 1,400.00
H-5	81-5114	Extension Blast Hose Assembly 50' w/control lines	\$ 1,400.00
	81-5211 A	25' Remote Control Twinline wo/Deadman Switch	\$ 340.00
	81-5211 B	25' Remote Control Twinline w/Deadman Switch	\$ 420.00
H-2	81-5212	50' Remote Control Twinline w/Deadman Switch	\$ 650.00
H-6	81-5214	50' Remote Control Twinline Extension with Fittings	\$ 450.00
	81-5311	Blast Hose 25' (1Coupling)	\$ 650.00
H-4	81-5312	Blast Hose 50'(1Coupling)	\$ 850.00
H-8	81-5314	Blast Hose 50' Extension (2Couplings)	\$ 1,000.00
31	81-5315	Blast Hose 50' (NoCoupling)	\$ 600.00
H-3	81-5412	50' High Pressure Water Hose 1500PSI 3/8" w/Fittings	\$ 195.00
H-3	81-5472	50' High Pressure Water Hose 1500PSI 3/8"w/o Fittings	\$ 165.00
	81-7000	10' Connecting Air Hose 200PSI	\$ 125.00
R5	91-1910	Spare Parts Box (Included ‡)	\$ 750.00
T	91-2210-200	Thompson Valve Complete 1" Urethane	\$ 1,375.00
5	91-2210-300	Normally Closed Auto Air Valve	\$ 410.00
R1	91-2210-310	Rebuild kit -Normally Closed Auto Air Valve ‡	\$ 140.00
6	91-2210-400	Air Pressure Regulator 1"	\$ 330.00
R3	91-2210-420	Rebuild kit- Air Pressure Regulator 1" ‡	\$ 150.00
	91-2210-500	Moisture Separator w/Automatic Drain	\$ 365.00
	91-2210-510	Seal for Separator Filter w/Automatic Drain	\$ 10.00
3	91-2210-550	Oil Separator w/Manual Drain -on Pot	\$ 420.00
28	91-2210-600	Swing Check Valve1" port	\$ 315.00
11	91-2210-690	Blowdown Muffler	\$ 120.00
29	91-2210-700	Media Vessel Vibrator	\$ 275.00
N-8	91-2210-710	High Pressure Needle Valve for Washdown Unit	\$ 200.00
	91-2210-920	Teflon Tape ‡	\$ 3.00
12	91-5210-110	Quick Connect Plug 1/4"FNPT (Remote Control Line) ‡	\$ 6.00
13	91-5210-120	Quick Connect Coupling 1/4"FNPT (Remote Control Line) ‡	\$ 18.00
32	91-5310-110	Blast Hose Claw Coupling 1 1/4" ‡	\$ 99.00
	91-5320-110	Claw Coupling 1" FNPT (Pot Outlet) Old	\$ 99.00
2	91-5330-100	Claw Coupling 1"MNPT w/pins (Pressure Pot Inlet & Air Cooler)	\$ 18.00
15	91-5330-110	Blast Hose Claw Coupling 1"MNPT (Pressure Pot Outlet) New	\$ 75.00
	91-5330-150	Blast Hose Claw Coupling Neoprene Seal (bag of 5)	\$ 26.00
30	91-5330-155	Claw Coupling Safety Clip	\$ 0.50
7	99-001	100PSI Gauge-Glycerin in Filled	\$ 85.00
8,11,27	99-7010-500	Ball Valve 1" (Air Inlet, Choke & Blowdown Valves)	\$ 65.00
	H-2210-930	Jumbo Cable Ties (bags of 100)	\$ 80.00
33	H-5120	Blast Hose End Aluminum	\$ 135.00

ROTEC® VORTEX Drawings

ROTEC® VORTEX Nozzle View Assembly



ROTEC® VORTEX Nozzle Assembly

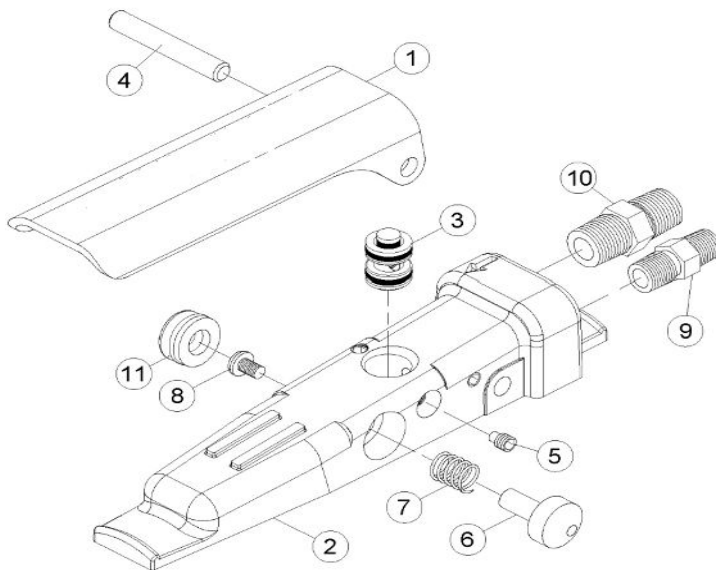
20-1000

ROTEC® VORTEX Nozzle Parts

Part #	Description
20-1001	Nozzle Holder
20-1006	Nozzle –Standard 6/12 mm
20-1009	Nozzle –Optional 9/12 mm
20-1011	Nozzle –Optional 11/16 mm
20-1035	O-Ring
20-1030	Turbine
20-1031	Distance Ring
91-2210-710	Needle Ball Valve ¼"
No other parts available	

Nozzle Drawing - N

DEADMAN VALVE



Deadman Valve G2 Pneumatic

2263-002

G2 Deadman Spare parts kit

2263-002-99

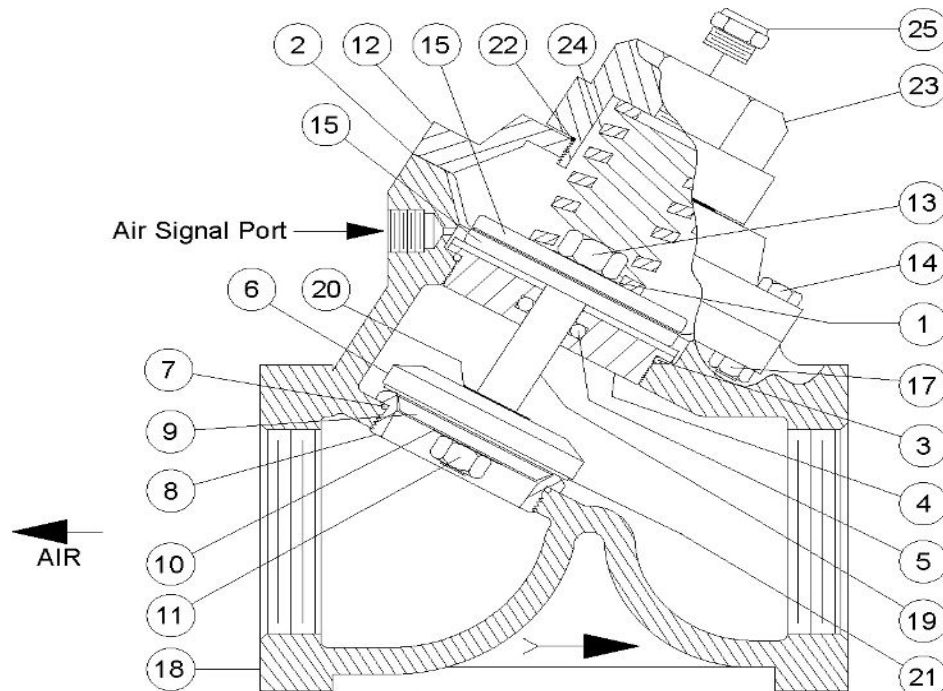
This is only sold in kit form

#	Part	Description
3	2-03	Cartridge Assembly
5	2-05	Cartridge Set Screw
7	2-07	Deadman Spring
8	008	Button Screw
11	2-10	Dust Plug
No other parts available		

Deadman Valve Drawing - D

ROTEC® VORTEX Drawings

Normally closed valve Automatic Air



Normally Closed Automatic Air Valve drawing – A

Complete repair kit		
91-2210-310		
Item	Part number	Description
1	2123-006-01	Gasket
2	2123-006-02	Diaphragm
3	2123-006-03	O-ring
5	2123-006-05	O-ring
7	2123-006-07	O-ring
11	2123-006-11	Lock nut
13	2123-006-16	Lock nut
20	2123-006-20	Gasket

Storage not parts		
Item	Part number	Description
4	2123-006-04	Retainer Bushing
6	2123-006-06	Disc Retainer
8	2123-006-08	Seat
9	2123-006-09	Disk Plate
10	Deleted	N/A
12	2123-006-12	Cap
14	2123-006-14	Cap Screw
15	2123-006-15	Diaphragm Plate
17	2123-006-17	Loc Nut
Disk	2123-006-18	Body 1inch
18	2123-006-19	Shaft
19	2123-006-22	Gasket
22	2123-006-23	Spring Retainer
23	2123-006-24	Spring
24	2123-006-25	Vent 1/8inch
No other parts available		

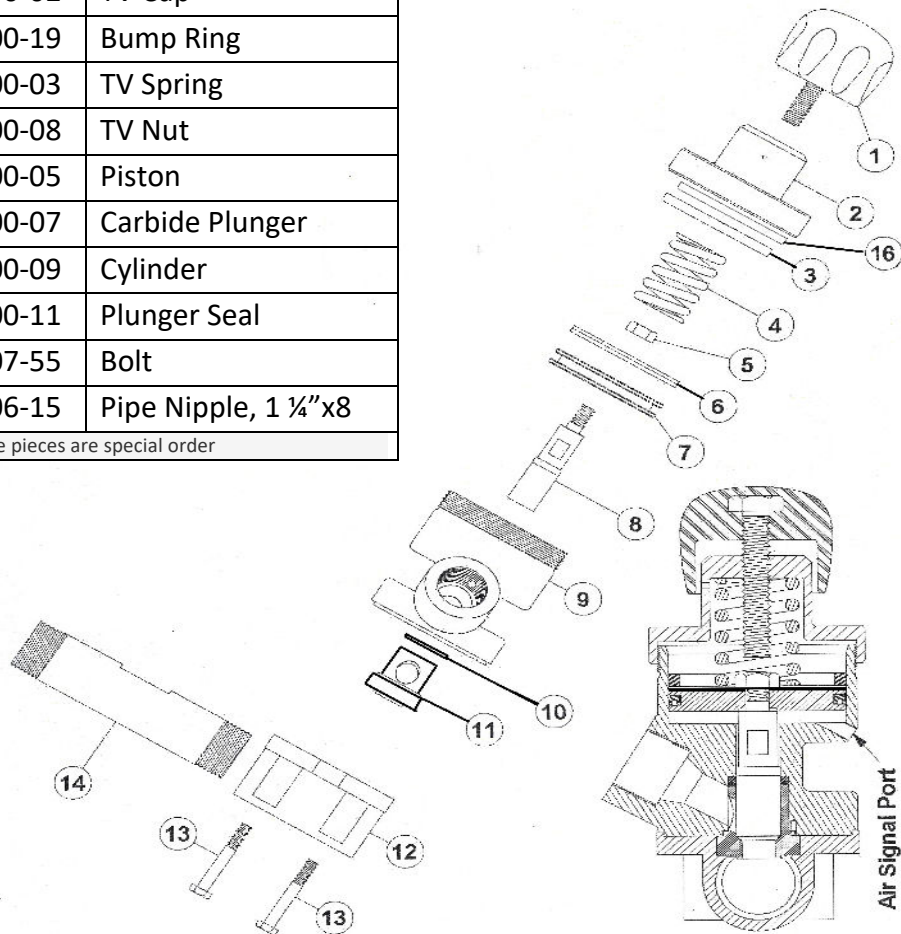
Special Order Parts Order

ROTEC® VORTEX Drawings

Thompson Valve

Complete Urethane Sleeve Repair Kit		
2149-100-98		
Item	Part #	Description
6	2149-000-04	Piston Seal
10	2149-000-06	Plunger Seal
11	2149-100-13	Urethane Sleeve
16	2149-000-25	Vibrating Disk
Previous parts are also sold separately		

Other parts of the Thompson valve		
Item	Part #	Description
1	2149-000-01	TV Knob
2	2149-000-02	TV Cap
3	2149-000-19	Bump Ring
4	2149-000-03	TV Spring
5	2149-000-08	TV Nut
7	2149-000-05	Piston
8	2149-000-07	Carbide Plunger
9	2149-000-09	Cylinder
12	2149-000-11	Plunger Seal
13	7010-507-55	Bolt
14	2149-006-15	Pipe Nipple, 1 1/4"x8
The pieces are special order		



Thompson Valve Drawing – T

ROTEC® VORTEX Drawings

AIR Pressure Regulator 91-2210- 400

TECHNICAL DATA

Fluid: Compressed air

Maximum pressure: 20 bar (300 psig)

Operating temperature: -34° to +80°C (-30° to +175°F)

* Air supply must be dry enough to avoid ice formation at temperatures +2°C (+35°F).

Typical flow at 10 bar (150 psig) inlet pressure, 6,3 bar (90 psig) set pressure, and a droop of 1 bar (15 psig) from set: 227 dm³/s (480 scfm)

Gauge ports:

1/4" PTF with PTF main ports

Rc1/4 with ISO Rc and ISO G main ports

Materials:

Body: Aluminum

Bonnet: Aluminum

Bottom plug: Acetal

Valve: Aluminum and nylon

Elastomers: Nitrile

REPLACEMENT ITEMS

Service kit (includes items circled on exploded view)

Relieving.....5578-02

Non-relieving.....5578-01

Tamper resistant seal wire.....2117-01

PANEL MOUNTING DIMENSIONS

Panel mounting hole diameter: 58 mm (2.28")

Panel thickness: 2 to 4 mm (0.06" to 0.16")

INSTALLATION

1. Shut off air pressure. Install regulator in air line -
 - with air flow in direction of arrow on body,
 - upstream of lubricators and cycling valves,
 - as close as possible to the device being serviced,
 - at any angle.
2. Connect piping to proper ports using pipe thread sealant on male threads only. Do not allow sealant to enter interior of regulator.
3. Install a pressure gauge or plug the gauge ports. Gauge ports can also be used as additional outlets for regulated air.
4. Install a Norgren general purpose filter upstream of the regulator.

ADJUSTMENT

1. Before applying inlet pressure to regulator, turn adjustment (1 or 3) counterclockwise to remove all force on regulating spring (7).
2. Apply inlet pressure, then turn adjustment (1 or 3) clockwise to increase and counterclockwise to decrease pressure setting.
3. Always approach the desired pressure from a lower pressure. When reducing from a higher to a lower setting, first reduce to some pressure less than that desired, then bring up to the desired pressure.

NOTE

With non-relieving regulators, make pressure reductions with some air flow in the system. If made under no flow (dead-end) conditions, the regulator will trap the over-pressure in the downstream line.

4. **KNOB ADJUSTMENT.** Push locking on knob down to lock pressure setting. Pull locking up to release. Install tamper resistant wire (see **Replacement Items**) to make setting tamper resistant.
5. **T-BAR ADJUSTMENT.** Tighten lock nut (4) lock pressure setting.

DISASSEMBLY

1. Regulator can be disassembled without removal from air line.
2. Shut off inlet pressure. Reduce pressure in inlet and outlet lines to zero.
3. Turn adjustment (1 or 3) fully counterclockwise to remove all force on regulating spring (7).
4. Disassemble in general accordance with the item numbers on exploded view.

CLEANING

1. Clean parts with warm water and soap. Do not submerge knob type bonnets (1) in solution, as lubricant will be removed.
2. Rinse and dry parts. Blow out internal passages in body with clean, dry compressed air.
3. Inspect parts. Replace those found to be damaged.

ASSEMBLY

1. Lubricate o-rings, valve stem (15), valve bore in bottom plug (12), adjusting screw tip and adjusting screw threads inside bonnet (1, 6), threads on bonnets (1, 6) and bottom plug (12) with a light coat of good quality o-ring grease.
2. Assemble the unit as shown on the exploded view.
3. Torque Table

Item	Torque in Nm	(Foot-Pounds)
1, 6 (Bonnets)	41 to 48	(30 to 35)
12 (Bottom plug)		Hand tight

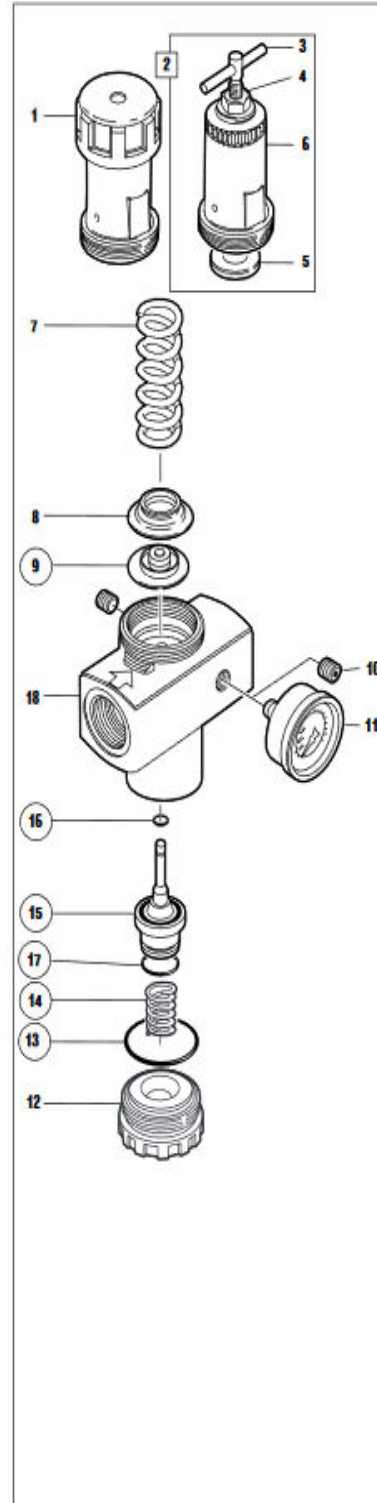
WARNING

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under **Technical Data**.

If outlet pressure in excess of the regulator pressure setting could cause downstream equipment to rupture or malfunction, install a pressure relief device downstream of the regulator. The relief pressure and flow capacity of the relief device must satisfy system requirements.

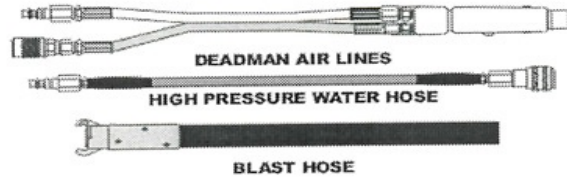
The accuracy of the indication of pressure gauges can change, both during shipment (despite care in packaging) and during the service life. If a pressure gauge is to be used with these products and if inaccurate indications may be hazardous to personnel or property, the gauge should be calibrated before initial installation and at regular intervals during use.

Before using these products with fluids other than air, for non industrial applications, or for life-support systems consult Norgren.

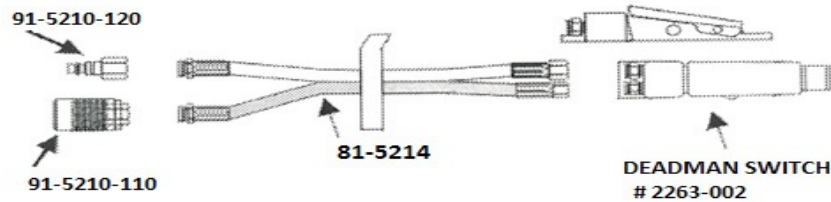


Special Order Parts Order

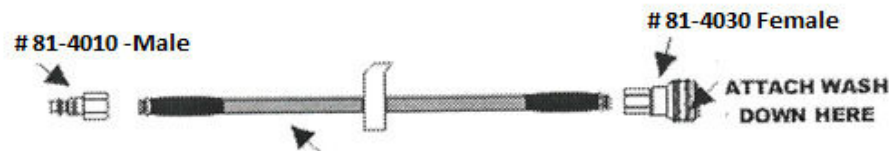
ROTEC® VORTEX Drawings



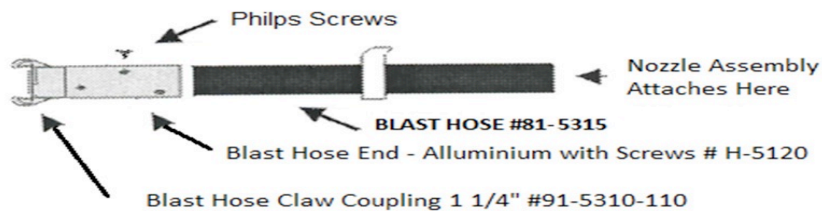
81-5112 -50 Ft. Blast Hose Assembly with Control Lines Deadman Switch		
1	81-5212	50' Control Line Extension with Deadman Switch
1	81-5412	50' High Pressure Water Hose 1500 PSI 3/8" with fittings
1	81-5312	50' Blast Hose with one Coupling



81-5212 -50 Ft. Remote Control Lines with Deadman Switch		
1	2263-002	Deadman Switch G2 Pneumatic
1	81-5210	50' Remote Control Twinline - Only
1	91-5210-110	Quick Connect Plug 1/4" FNPT (Remote Control Line) ‡
1	91-5210-120	Quick Connect Coupling 1/4" FNPT (Remote Control Line) ‡



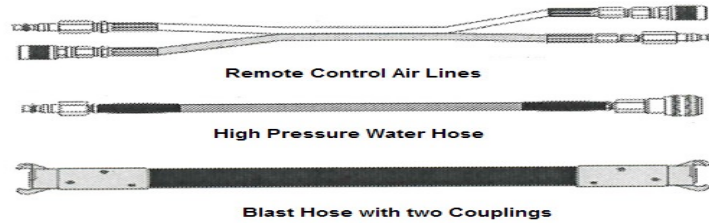
81-5412- 50Ft. High Pressure Hose 1500 PSI with Fittings		
1	81-5472	50' High Pressure Water Hose 1500 PSI 3/8"
1	81-4010	HOSE Coupler QK 3/8" FPT X M PLG Male ZINC
1	81-4030	HOSE Coupler QK 3/8" FPT X F PLG Female ZINC



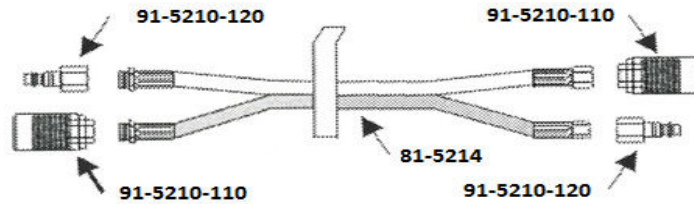
81-5312 -50 Ft. Blast Hose with one Coupling		
1	81-5315	50' Blast Hose - only
1	H-5120	Blast Hose End – Aluminum with Screws
1	91-5320-110	Blast Hose Claw Coupling 1 1/4"

Hose Drawing - H

ROTEC® VORTEX Drawings



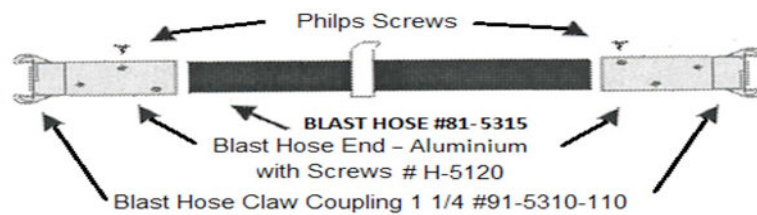
81-5114 -50FT. Blast Hose Extension Assembly with Control Lines complete		
1	81-5214	50' Control Air Lines for Extension with fittings
1	81-5412	50' High Pressure Water Hose 1500 PSI 3/8" with Fittings
1	81-5314	50' Blast Hose with two Coupling



81-5214 -50 Ft. -Remote Control line for Extension with Fittings		
1	81-5210	50' Remote Control Twinline -Only
2	91-5210-110	Quick Connect Plug 1/4" FNPT (Remote Control Lines) ‡
2	91-5210-120	Quick Connect Coupling 1/4" FNPT (Remote Control Lines) ‡



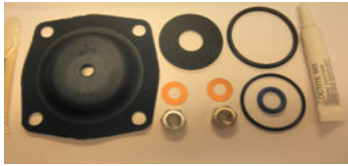
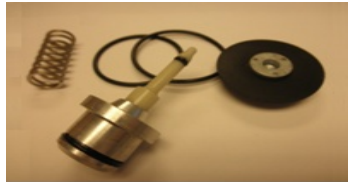
81-5212 High Pressure Water Hose 1500 PSI with Fitting		
1	81-5472	50' High Pressure Water Hose 1500 PSI 3/8"
1	81-4010	Hose Coupler QK 3/8" FPT X M PLG ZINC Male
1	81-4030	HOSE Coupler QK 3/8" FPT X Female ZINC



81-5314 50Ft. Blast Hose with two Coupling		
1	81-5315	50' Blast Hose - only
2	H-5120	Blast Hose End – Aluminum with Screws
2	91-5310-110	Blast Hose Claw Coupling 1 1/4 "

Hose Drawing – H

ROTEC® VORTEX Drawings

Rebuild Kits				
#	ID #	Description	Photo	Unit \$
R1	91-2210-310	Normally Closed Automatic Air Valve - Rebuild Kit		\$140.00
R2	2263-002-99	Deadman Switch – Rebuild Kit		\$65.00
R3	91-2210-420	Pressure Regulator - Rebuild Kit		\$150.00
R4	2149-100-98	Thompson Valve - Rebuild Kit		\$120.00
R5	91-1910	Thompson Valve - Rebuild Kit		\$750.00
R6	2149-000-04	Thompson Valve Piston Seal (in kit #R4)		\$20.00
R7	2149-000-06	Thompson Valve Plunger Seal (in kit #R4)		\$15.00
R8	2149-100-13	Thompson Valve Urethane Sleeve (in kit #R4)		\$ 85.00
R9	2149-000-25	Thompson Valve Vibration Disk (in kit #R4)		\$20.00