BINKS

Instruction Manual

Pressure Relief Valve

PRV22 – x – xx

Finishing Brands

DeVILBISS Ransburg BGK BINKS

Product Description

BPR - 107757, 107758, 107748, 107749, 107750, 107754, 107755, PRV22

This Product is designed for use with:	Solvent and Water based Materials
Suitable for use in hazardous area:	Zone 1 & 2
Protection Level:	II 2 G X T4
Manufacturer:	Binks, Justus-von-Liebig - Strasse, 63128 Dietzenbach. DE

EU Declaration of Conformity

We: Binks declare that the above product conforms with the Provisions of:
Machinery Directive 2006/42/EC
ATEX Directive 94/9/EC

by complying with the following statutory documents and harmonized standards:
EN ISO 12100: Safety of Machinery - General Principles for Design
EN ISO 4413: Hydraulic Fluid Power - General Rules and safety requirements
EN ISO 4414: Pneumatic Fluid Power - General Rules and safety requirements

EN1127-1: Explosive atmospheres - Explosion prevention - Basic concepts
EN 13463-1: Non electrical equipment for use in potentially explosive atmospheres - Basic methods and requirements
EN 13463-5: Non electrical equipment for use in potentially explosive atmospheres - Protection by constructional safety

Providing all conditions of safe use stated within the product manuals have been complied with and that the final equipment into which this product is installed has been re-assessed as required, in accordance with essential health and safety requirements of the above standards, directives and statutory instruments and also installed in accordance with any applicable local codes of practice.

D Smith (General Manager)
01 November 2012

General Description

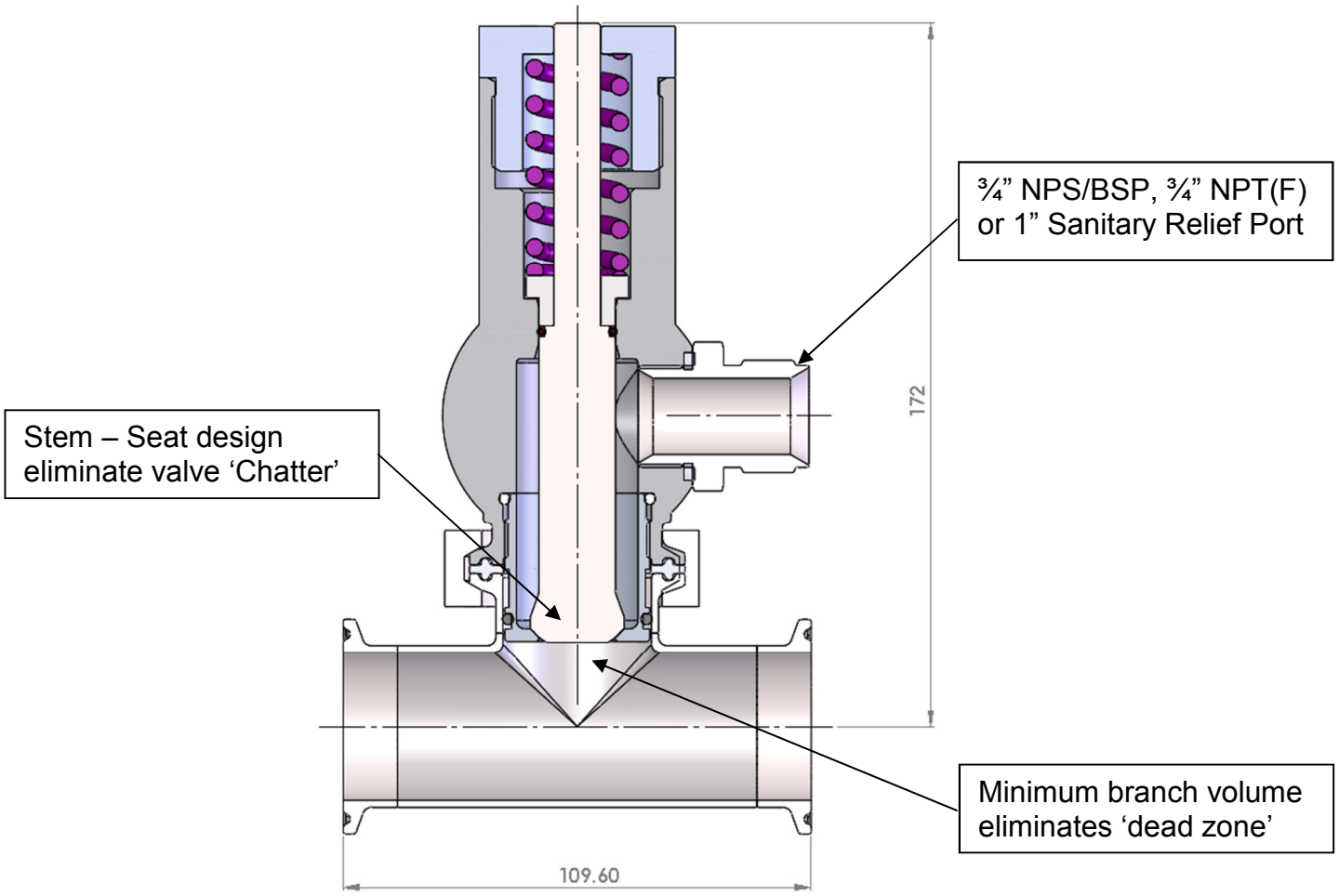
The Binks mechanical Pressure Relief Valve offers a practical solution for the prevention of Smart Pump and paint system overpressure.

An electrical detection system is usually installed (pressure switch or pressure sensor) to detect and stop the pump when a potentially damaging high paint pressure is reached. This could be due to an inadvertent closing of an outlet ball valve, paint filter blockage or paint line restriction.

The mechanical relief valve can be easily installed directly on the pump outlet manifold. Any relieved paint pressure is piped back into the mix tank.

This equipment is designed for use with Solvent based and Waterborne materials.
Suitable for use in Zone 1 and 2, Protection Level: II 2 G X

The Pressure relief valve is a purely mechanical device and intended to complement the primary electrical safety device which must be installed.



WARNING

Directions for Working Safety

This Product has been constructed according to advanced technological standards and is operationally reliable. Damage may, however, result if it is used incorrectly by untrained persons or used for purposes other than those for which it was constructed.

The locally current regulations for safety and prevention of accidents are valid for the operation of this product under all circumstances.

International, national and company safety regulations are to be observed for the installation and operation of this product, as well as the procedures involved in maintenance, repairs and cleaning.

These instructions are intended to be read, understood and observed in all points by those responsible for this product. These operating and maintenance instructions are intended to ensure trouble free operation. Therefore, it is recommended to read these instructions carefully before start-up. Binks PCE cannot be held responsible for damage or malfunctions resulting from the non-observance of the operating instructions. These instructions including regulations and technical drawings may not be copied, distributed, used for commercial purposes or given to others either in full or in part without the consent of Binks PCE.
We reserve the right to alter drawings and specifications necessary for the technical improvement of this product without notice.



Equipment Misuse Hazard

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose.
- Do not alter or modify this equipment. Use only genuine Binks PCE parts and accessories.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure stated on the equipment or in the Technical Data for your equipment. Do not exceed the maximum working pressure of the lowest rated component in your system.
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the Technical Data section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Route hoses away from traffic areas, sharp edges, moving parts, and hot surfaces. Do not expose hoses to temperatures above 82°C (180°F) or below —40°C (—40°F).
- Do not lift pressurized equipment.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.



Fire, Explosion and Electric Shock Hazard

Improper grounding, poor ventilation, open flames or sparks can cause a hazardous condition and result in a fire, explosion, or electric shock.

When installed and operated in accordance with its instructions, the pump is approved for operation in Zone 1 (Europe) & Division 1 (North America), hazardous locations. (ATEX Cat 2)

- Electrical equipment must be installed, operated, and serviced only by trained, qualified personnel who fully understand the requirements stated in this instruction manual.
- Ground the equipment and all other electrically conductive objects in the spray area. After grounding test with ohmmeter to ensure earth continuity is 1 ohm or less.
- Keep all covers tight while the motor is energized.
- If there is any static sparking or you feel an electric shock while using this equipment, stop spraying/dispensing immediately. Do not use the equipment until you identify and correct the problem.
- Provide fresh air ventilation to avoid the build up of flammable fumes from solvents or the fluid being pumped.
- Keep the pumping area free of debris, including solvent, rags, and gasoline.
- Electrically disconnect all equipment in the pumping area.
- Extinguish all open flames or pilot lights in the spray/dispense area.
- Do not smoke in the spray/dispense area.
- Do not turn on or off any light switch in the spray/dispense area while operating or if fumes are present.

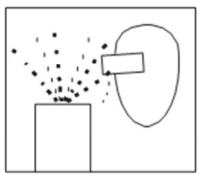
WARNING

READ THE MANUAL
Before operating equipment, read and understand all safety, operation and maintenance information provided in the operation manual.

DE-ENERGIZE, DEPRESSURIZE, DISCONNECT AND LOCK OUT ALL POWER SOURCES DURING MAINTENANCE
Failure to De-energize, disconnect and lock out all power supplies before performing equipment maintenance could cause serious injury or death.

OPERATOR TRAINING
All personnel must be trained before operating equipment.

KEEP EQUIPMENT GUARDS IN PLACE
Do not operate the equipment if the safety devices have been removed.



PROJECTILE HAZARD
You may be injured by venting liquids or gases that are released under pressure, or flying debris.

PINCH POINT HAZARD
Moving parts can crush and cut. Pinch points are basically any areas where there are moving parts.

MAGNETIC FIELD PRESENT
You may be subjected to magnetic fields which may interfere with the operation of certain pacemakers.

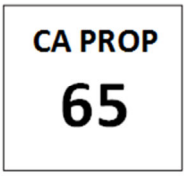
WEAR SAFETY GLASSES
Failure to wear safety glasses with side shields could result in serious eye injury or blindness

NOISE HAZARD
You may be injured by loud noise. Hearing protection may be required when using this equipment.

KNOW WHERE AND HOW TO SHUT OFF THE EQUIPMENT IN CASE OF AN EMERGENCY

HIGH PRESSURE CONSIDERATION
High pressure can cause serious injury. Relieve all pressure before servicing. Hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury.

AUTOMATIC EQUIPMENT
Automatic equipment may start suddenly without warning.



PROP 65 WARNING
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

MAGNET HAZARD
Take care when handling magnets.
Avoid getting magnets in close proximity of each other. Injury or damage to magnets may results.

Installation - Mounting

The Pressure relief valve should be directly mounted on the outlet of the pump using suitable sanitary gaskets and clamps.

The relief port should be connected to the mix tank with suitable clear hose, length as short as possible. (No more 3m long)

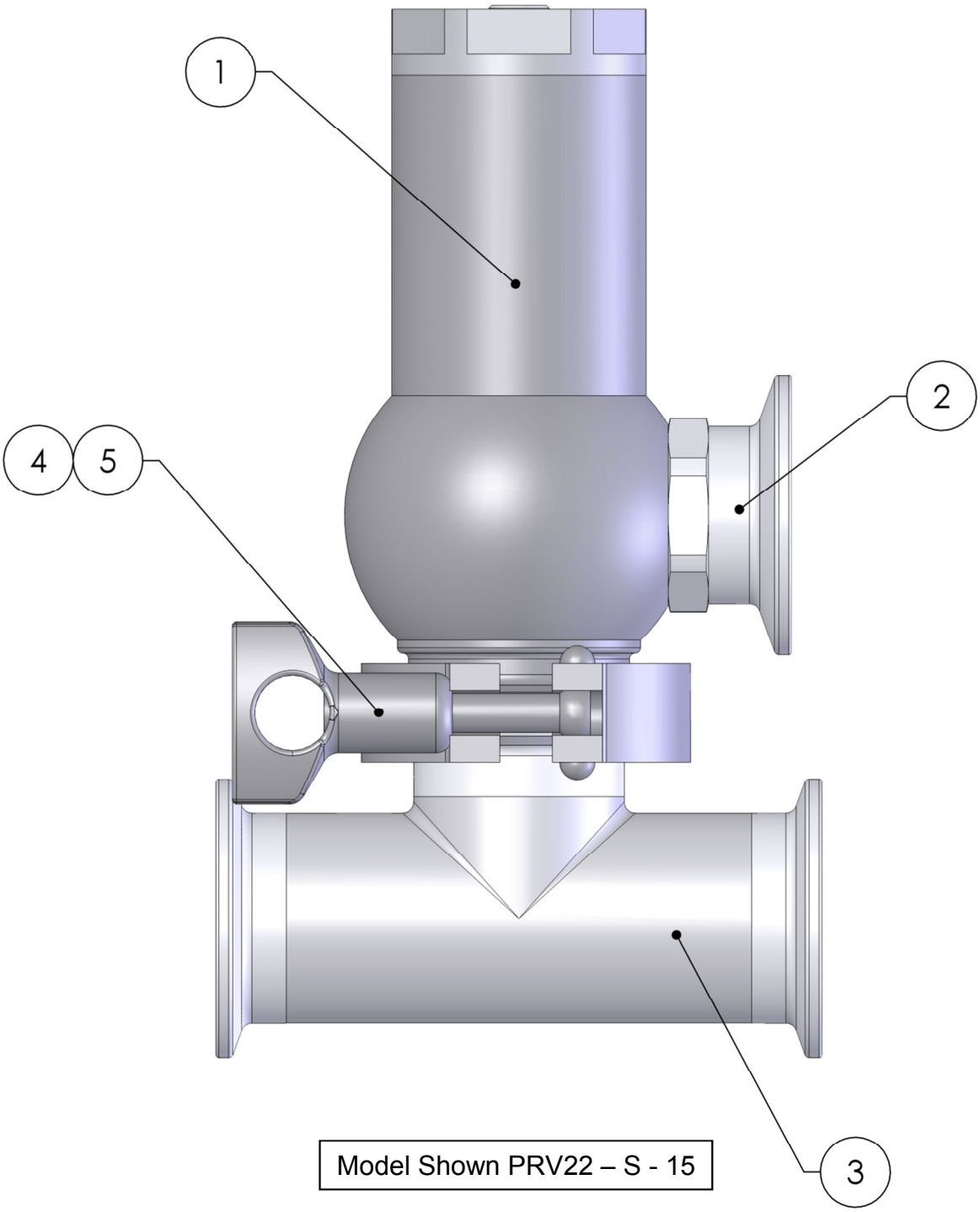
Clear hose is recommended as this will indicate the valve has operated

Smart Pump	Minimum Hose Diameter
E2-15 & E2-30	13 mm Nominal Bore
E2-40 & E4-60	16 mm Nominal Bore

As the mechanical pressure relief is intended to be used only as the secondary pressure relief device, the primary device, the electrical sensor should be set to operate at a lower pressure.

Should the mechanical valve operate then the cause of problem should first be investigated. Following satisfactory conclusion the relief valve and hose should be removed and cleaned. If no spare valve is available then a blanking plate can be temporarily put in place whilst cleaning takes place.

Mechanical Pressure Relief Valve			
Part No.	PRV22 - x – 10	PRV22 - x – 15	PRV22 - x – 20
Inlet / Outlet Connection	1" Sanitary	1½" Sanitary	2" Sanitary
Relief Port Connection	S = 1" Sanitary U = ¾" BSP/NPSM N = ¾" NPTF		
Cracking' Pressure	22 Bar (320 PSI)		
Full Flow' Pressure	24 Bar (350 PSI)		
Wetted Parts	Stainless Steel		



Model Shown PRV22 – S - 15

Note: 1 off Clamp and Gasket are included for assembly to the Pump Outlet Manifold

PRV22 – X - 10 Parts List – Pressure Relief Valve Assembly

ITEM	PART No	DESCRIPTION	QTY	REMARKS
1	PRV22	MAIN VALVE ASSEMBLY	1	
2	193202	¾" BSP / NPSM OUTLET NIPPLE	1	U
2	193614	1" SANITARY OUTLET NIPPLE	1	S
2	193736	¾" NPTF OUTLET NIPPLE	1	N
3	193204	1" SANITARY TEE	1	
4	192008	1½" SANITARY GASKET	1	
5	192009	1½" SANITARY CLAMP	2	
6	192206	1" SANITARY GASKET	1	

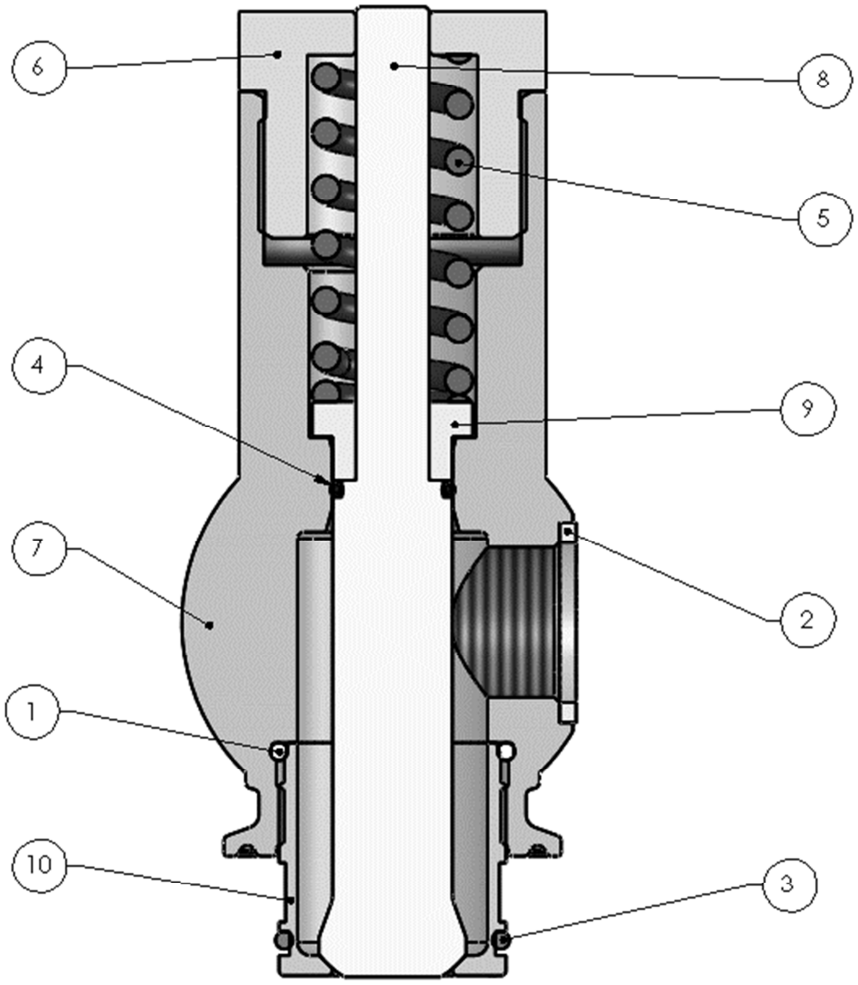
PRV22 – X - 15 Parts List – Pressure Relief Valve Assembly

ITEM	PART No	DESCRIPTION	QTY	REMARKS
1	PRV22	MAIN VALVE ASSEMBLY	1	
2	193202	¾" BSP / NPSM OUTLET NIPPLE	1	U
2	193614	1" SANITARY OUTLET NIPPLE	1	S
2	193736	¾" NPTF OUTLET NIPPLE	1	N
3	193201	1½" SANITARY TEE	1	
4	192008	1½" SANITARY GASKET	2	
5	192009	1½" SANITARY CLAMP	2	

PRV22 – X – 20 Parts List – Pressure Relief Valve Assembly

ITEM	PART No	DESCRIPTION	QTY	REMARKS
1	PRV22	MAIN VALVE ASSEMBLY	1	
2	193202	¾" BSP / NPSM OUTLET NIPPLE	1	U
2	193614	1" SANITARY OUTLET NIPPLE	1	S
2	193736	¾" NPTF OUTLET NIPPLE	1	N
3	193200	2" SANITARY TEE	1	
4	192008	1½" SANITARY GASKET	1	
5	192009	1½" SANITARY CLAMP	1	
6	192029	2" SANITARY GASKET	1	
7	192544	2" SANITARY CLAMP	1	

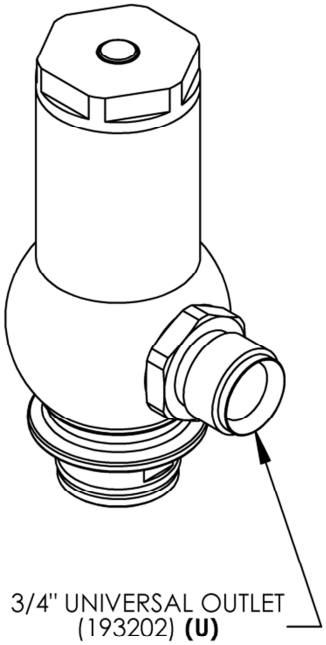
Parts List – PRV22 - Main Valve Assembly (Reference)				
ITEM	**PART No**	**DESCRIPTION**	**QTY**	**REMARKS**
1	162747	SEAT SEAL	1	
2	162748	NIPPLE SEAL	1	
3	162749	SANITARY TEE SEAL	1	
4	162750	SHAFT SEAL	1	
5	190808	SPRING	1	
6	192804	SPRING RETAINER	1	
7	192805	VALVE BODY	1	
8	192806	SHAFT	1	
9	192809	WASHER	1	
10	193203	VALVE SEAT	1	



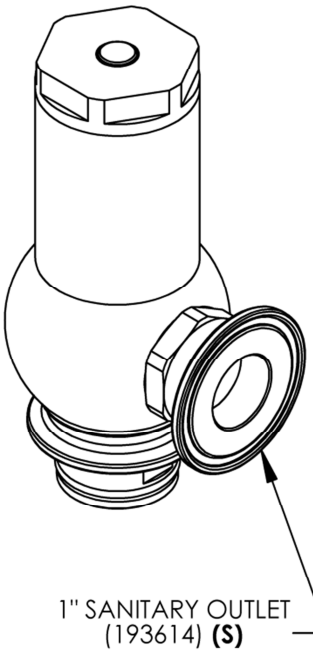
PRV22 - X - XX

OUTLET CONNECTION

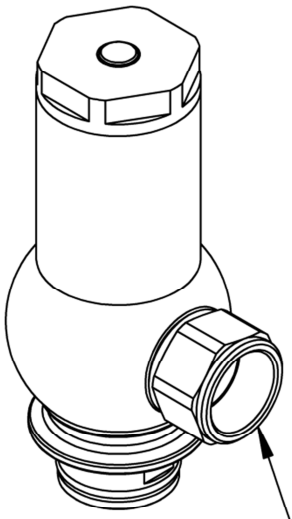
SANITARY TEE



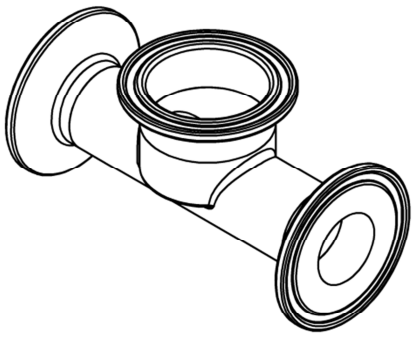
3/4" UNIVERSAL OUTLET
(193202) **(U)**



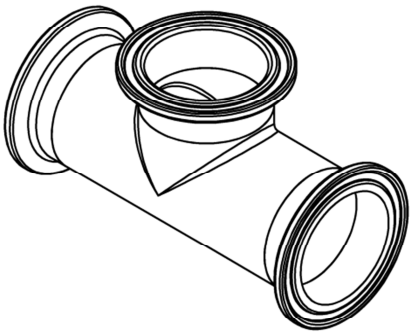
1" SANITARY OUTLET
(193614) **(S)**



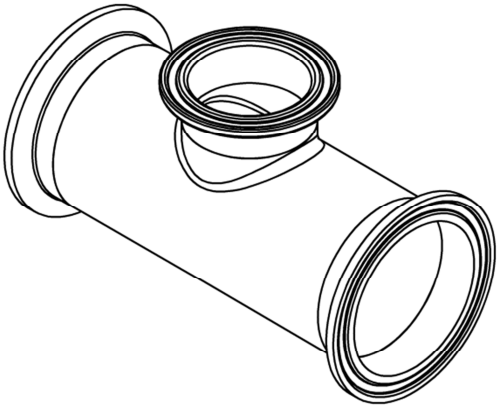
3/4" NPT(f) OUTLET
(193736) **(N)**



1" SANITARY TEE
(193204)**(10)**



1.5" SANITARY TEE
(193201)**(15)**



2" SANITARY TEE
(193200)**(20)**

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