



Fast Fill Systems
Product Catalogue

JSG Industrial Systems
quality industry solutions

Lubrication
Management
Systems

Material
Dispensing
Management
Systems

Hose & Cable
Management
Systems

Diesel & Fluid
Management
Systems

Fire
Suppression
Systems

Onboard
Weighing
Systems

Exhaust / Fume
Extraction &
Filtration
Systems

General
Lubrication
& Workshop
Equipment



The Better Way

TO SERVICE YOUR DIESEL POWERED UNITS WITH DIESEL, COOLANT, CRANKCASE, TRANSMISSION & HYDRAULIC OILS, JSG HAVE THE UNITS TO ENABLE YOUR SERVICE PEOPLE TO CARRY OUT THE FILL & EVACUATION PROCEDURES SAFELY.

- Eliminates dirt and dust contamination in diesel fuel and other fluids
- Eliminates costly spillage of diesel fuel and other fluids
- Simultaneously protecting the environment
- While providing safety and cleanliness for servicing personnel

The on-going development of “FAST FILL SYSTEMS” product range addresses these problems when servicing your diesel powered units. This on-going development of the “FAST FILL SYSTEMS” product range provides greater cost savings through:

- Greater vehicle availability due to the elimination of contaminants entering the system
- The reduction in filling time for diesel fuel and other fluids
- Eliminate spillage

By installing the “FAST FILL” product range you will be impressed with the high quality and heavy construction of the products in the JSG/Fast Fill Systems range.

For use in:

- Mine/Quarry Fuel Farms
- Heavy Earth Moving Equipment - Mining, Quarrying
- Construction Machinery - Civil, Forestry, Agriculture
- Marine & Stevedoring Industry
- On Road Trucks & Buses
- Railway Industry
- Councils



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Fast Fill Unit Marking Notations

PREFIX	REFERS TO	DESCRIPTION/INFO	APPLICATION/OTHER INFO
<i>Diesel</i>			
A	Diesel Fast Fill Adaptor	Straight 45° & 90°	Splash Fill Attachment Using a N150 Nozzle
C	Dust Cap	Suit Receivers	As a Spare Part Only
FFF4C	Bell Housing	Flanged Recess Mount For R150# & PLA150 Units	Weld On X Flush Mount Receiver Housing Only
FFF5C	Bell Housing	Flanged Recess Mount For R150# & PLA150 Units	Bolt On X Flush Mount Receiver Housing Only
N	Nozzle	1.5" & 2" NPT Female Threads	Pressure Sensitive Nozzles
P	Dust Plugs	Suit Nozzle	As a Spare Part Only
PLA	Pressureless	Used in a Pressureless Diesel Tank	Pressureless Systems for Diesel Tanks
R	Receiver	2" NPT Male Threaded	Connects With N150 Series Diesel Nozzles
S	Swivel	1.5" 2" NPT Male/Female Threads	Inlet Swivel For N150 Series Diesel Nozzles
V	Vent Assy	2" NPT Male Threaded	Breather/Vent For Pressurised Diesel Tanks
SUFFIX	REFERS TO	DESCRIPTION/INFO	APPLICATION/OTHER INFO
<i>Nozzles</i>			
T	Titan	Pressure Sensitive Nozzle	Uses Elasto Dogs as Restraints
R	Raptor	Pressure Sensitive Nozzle	Uses Elasto Dogs as Restraints
PB	PitBoss	Pressure Sensitive Nozzle	Uses Elasto Dogs as Restraints
SL & SL800	SureLoc Standard & High Flow	Pressure Sensitive Nozzle	Uses Ball Bearings Retaining Locks
B	Bulk Transfer	Non Pressure Sensitive Nozzle	Connects To R150 Receivers as a QDC
<i>For Receivers</i>			
A	Aluminium	Material	Industry Std/Subject To High Wear Rate
S	Steel	Material	More Robust Units
SS	Stainless Steel	Material	Special Application
CV	Check Valve	Ability to Change Receiver 'On The Run'	Anti Pilfering Of Diesel/No Need To Empty Tank
CVR	2 x Piece Steel Receiver	Steel Receiver For The R150CVC-A	Replace Unit On The Run With Check Valve in Place
SW	Socket Wrench	Fitting/Removal Tool	Suits Hex & Length Of Diesel Receivers
<i>Receiver Spring Rating</i>			
J	5 Psi Spring	Receiver Green Poppet for Pressureless Units #	Pressureless Systems
B	7 Psi Spring	Receiver Blue Poppet	Remote Fill Point Connections Or High Head
A	9 Psi Spring	Receiver Black Poppet	Std Unit
D	11 Psi Spring	Receiver Red Poppet	For Negative Head Application Only
E	5 Psi Spring	Receiver Purple Poppet for Pressurised Tanks	# Extra High Head & Remote connection for Check Valve
<i>Diesel Vents</i>			
No Suffix	5" Drop	Standard Length Vent No Adaptor	Large Flat Top Diesel Tanks
L7	7" Drop	Long Length Vent No Adaptor	Majority of Applications
L12	12" Drop	Long Stem Vent No Adaptor	To Obtain The 56 ltr Ullage in Smaller Tanks
A	2" NPT X Half Socket	Weldon Socket	To Mount Vents & Receivers
B	2" NPT 4 Bolt-on Flange	Bolt On Unit	Optional Mount For Vent
C	3/4" F/M Swivel Connection	For Vapour Vent Connection	To Direct Vapour Away From Service Person
D	Anti Vandalism	4" NPT Female Thread	Suit 4" NPT Std Cat Splash Fill Connection
H	High Volume	200 US GPM Rated Vent	High Flow Applications
W	Whistle	Special Vent	Whistles When Diesel Tank is Nearing Full
E	5" Drop (1 1/2" Outlet)	Standard Length Vent No Adaptor	Large Flat Top Diesel Tanks
CKV	High flow with check	One way check on outlet	Use with 28-FFV150-BCKV
<i>Caps & Plugs</i>			
P	Plus Plug	Fitted To N150## Nozzle	Plug Included In Part No. N150##P
C	Plus Cap	Fitted To R150## Receiver	Cap Included In Part No. R150##C
C150P	Plastic Dust Cap	Fitted To R150## Receiver	Cap Included In Part No. R150##CP
C150A	Aluminium Dust Cap	Fitted To R150## Receiver	Cap Included In Part No. R150##CA
<i>Pressureless Diesel Tank Fast Fill Units</i>			
PLA 150-***	Various Configurations of "AL" Bodies & Steel Receivers with Side, Remote & Top Fill Units Available.		

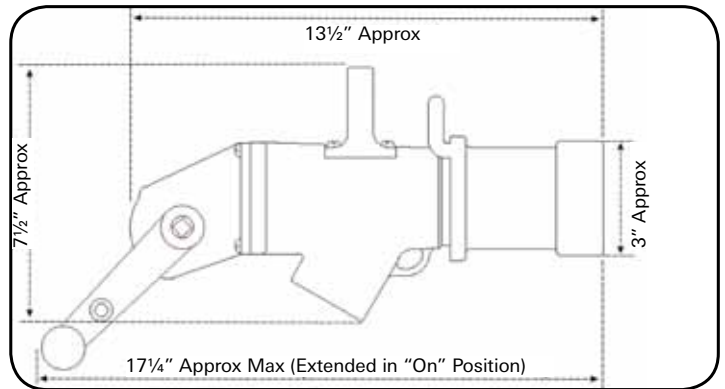
*** Refers to the Pressureless Diesel Tank Filling System Design for Plastic, "AL" & Steel Diesel Tanks.

Diesel Nozzles

SureLoc™ Diesel Fuel Nozzle



This premium Fastfill Diesel nozzle has been proven to meet the harsh environments found in mining operations. The exterior of this all-metal nozzle has a powder coated finish to ensure durability. The main housing also has an extended wall thickness, making the SureLoc the diesel fast fill nozzle of choice for heavy-duty applications. The SL800 range of Sureloc Nozzles provides higher flow rates to 800 LPM. The internal construction of the SureLoc nozzle consists of Ball Bearing latch mechanism for a more positive and stronger connection onto the receiver whilst the diaphragm in the rear provides a better and smoother controlled shut off.



Refer to the Nozzle Repair/Service sheet for detailed repair information.

Minimum Diesel Fill Rates for Diesel Tanks

Pressurised Diesel Tanks = 125 LPM/33 US GPM

Pressureless Diesel Tanks = 95 LPM/25 US GPM

Model Number	28-N150SLP (28-N150SL W/O Plug)
Flow Rate (max)	567 LPM/150 usgpm
Flow Rate (min)	Refer to info above
Operating Pressure	5.171 bar/75 psi (max)
Inlet Port	1 1/2" NPT Female
Latch Mechanism	Ball Bearing
Material	Heat-treated Aluminium
Weight	3.71 kg / 8 lbs 3oz
Swivel P/No. 28-S150	1 1/2" NPT Male/Female

Model Number	28-N150SL800P 28-N150SL800 (W/O plug)
Flow Rate (max)	800 LPM / 212 usgpm
Flow Rate (min)	Refer to info above
Operating Pressure	5.171 bar/75 psi (max)
Inlet Port	2" NPT Female
Latch Mechanism	Ball Bearing
Material	Heat-treated Aluminium
Weight	3.71 kg / 8 lbs 3oz
Swivel P/No. 28-S200	2" NPT Male/Female
Alt. Swivel P/No. S215	2" NPT Male X 1 1/2" NPT Female

Refer to page 29 for individual plugs

Diesel Nozzles

Raptor™ Diesel Fuel Nozzle



The Raptor Diesel Nozzle has been designed to meet the harsh environments found in mining operations and to address issues sometimes experienced with other designed nozzles. The exterior of this all-metal nozzle has a powder coated finish to ensure durability. The main housing also has an extended wall thickness, making the Raptor the diesel fast fill nozzle of choice for heavy-duty applications. The R800 range of Raptor provides higher flow rates to 800 LPM.

The construction of the Raptor nozzle combines the major features of the SureLoc and Pit Boss nozzles. The Elasto Dog latching mechanism allows positive latching where contamination on the receiver may present a problem but also has the diaphragm in the rear providing a better and smoother controlled shut off.

The Raptor Diesel Nozzle is available with a 2" NPT Diesel Inlet for flow rates to 800 LPM or 1 1/2" NPT Diesel Inlet for flow rates to 567 LPM Flow Rates.

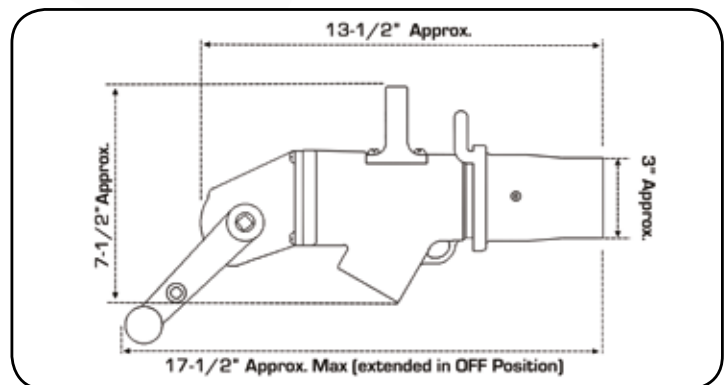
Minimum Diesel Fill Rates for Diesel Tanks

Pressurised Diesel Tanks = 125 LPM/33 US GPM

Pressureless Diesel Tanks = 95 LPM/25 US GPM

Aluminium

Model Number	28-N150R P (28-N150R W/O Plug)
Flow Rate (max)	567 LPM (150 us gpm)
Flow Rate (min)	Refer to info above
Operating Pressure	5.17bar / 75 psi (max)
Diesel Inlet Port	1 1/2" MPT Female
Latch Mechanism	Elasto Dog
Material	Heat treated Aluminium
Weight	3.629 kg / 8 lbs
Swivel P/N 28-S150	1 1/2" NPT Male/Female



Refer to the Nozzle Repair/Service sheet for detailed repair information.

Aluminium

Model Number	28-N150R800P 28-N150R800 (W/O Plug)
Flow Rate (max)	800 LPM (211 us gpm)
Flow Rate (min)	Refer to info above
Operating Pressure	5.17bar / 75 psi (max)
Diesel Inlet Port	2" NPT Female Standard
Latch Mechanism	Elasto Dog
Material	Heat treated Aluminium
Weight	3.629 kg / 8 lbs
Swivel P/N 28-S200	2" NPT Male/Female
Alt. Swivel P/No. S125	2" NPT Male X 1 1/2" NPT Female

Refer to page 29 for individual plugs

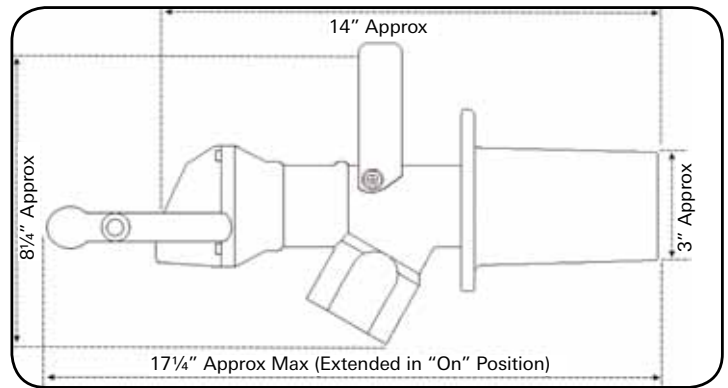
Diesel Nozzles

PitBoss™ Diesel Fuel Nozzle



The PitBoss nozzle is a perfect fit for users looking for a more economical diesel fueling solution. Fewer internal components, all-metal construction, piston-driven engagement, and a powder coated finish, you won't have to sacrifice quality for a lower cost.

The PitBoss is also available in all-steel construction for underground mining (Part No.28-N150PBSP) and also is available as "Brine Resistant (Part No.28-N150PBP-BR) The PitBoss nozzle has Elasto Dog latching mechanism allowing positive latching where contamination on the receiver may present a problem and has a piston shut off control at the rear end.



Refer to the Nozzle Repair/Service sheet for detailed repair information.

Minimum Diesel Fill Rates for Diesel Tanks

Pressurised Diesel Tanks = 125 LPM/33 US GPM

Pressureless Diesel Tanks = 95 LPM/25 US GPM

Aluminium

Model Number	28-N150PBP (28-N150PB W/O plug)
Flow Rate (max)	567 LPM / 150 usgpm
Flow Rate (min)	Refer to info above
Operating Pressure	5.171 Bar / 75 psi (max)
Inlet Port	1 1/2" NPT Female
Latch Mechanism	Elasto Dog
Material	Heat-treated Aluminium
Weight	2.835 kg / 6lbs 4oz
Swivel P/No.28-S150	1 1/2" NPT Male/Female

Steel

Model Number	28-N150PBSP 28-N150PBS (W/O plug)
Flow Rate (max)	567 LPM / 150 usgpm
Flow Rate (min)	Refer to info above
Operating Pressure	5.171 Bar / 75 psi (max)
Inlet Port	1 1/2" NPT Female
Latch Mechanism	Elasto Dog
Material	Steel
Weight	7.08 kg / 15.6lbs
Swivel P/No.28-S150S	1 1/2" NPT Male/Female/Steel

Brine Resistant

Model Number	28-N150PBP-BR (28-N150PB-BR W/O plug)	Operating Parameters as per 28-N150PBP
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Refer to page 29 for individual plugs

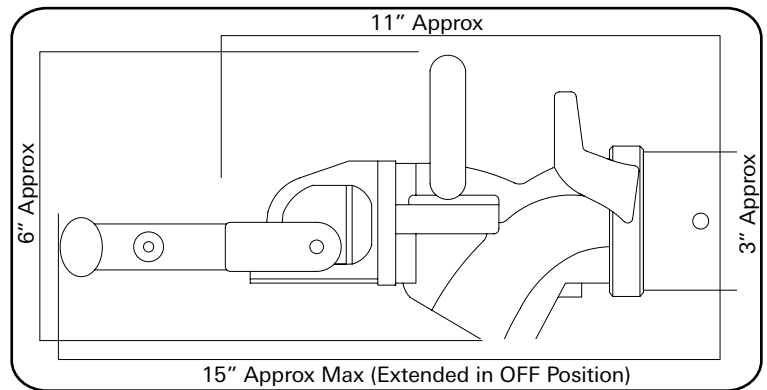
Diesel Nozzles

Titan™ Diesel Fuel Nozzle



The Titan nozzle is the smallest and lightest diesel nozzle industry wide with an all metal housing, a non-slip powder-coated finish and has the most forgiving latching mechanism in dirty conditions. The unique patent pending design allows the nozzle to be field repairable. The one piece replacement cartridge means that field repair only involves removing the handle and replacing the cartridge.

The Titan nozzle has Elasto Dog latching mechanism allowing positive latching where contamination on the receiver may present a problem and through the use of the Replacement Cartridge has a piston shut off control at the rear end.



Minimum Diesel Fill Rates for Diesel Tanks

Pressurised Diesel Tanks = 125 LPM/33 US GPM

Pressureless Diesel Tanks = 95 LPM/25 US GPM

Refer to the Nozzle Repair/Service sheet for detailed repair information.



Titan Replacement Cartridge
28-N150TRC

Model Number	28-N150TP 28-N150T (W/O plug)
Flow Rate (max)	567 LPM / 150 us gpm
Flow Rate (min)	Refer to info above
Operating Pressure	5.17bar / 75psi (max)
Diesel Inlet Port	1 ½" NPT Female
Latching Mechanism	Elasto Dog
Material	Heat-treated Aluminium
Weight	2.835 kg / 6lbs 4oz
Swivel P/N 28-S150	1 ½" NPT Male/Female
28-N150TRC	Replacement Cartridge

Refer to page 29 for individual plugs

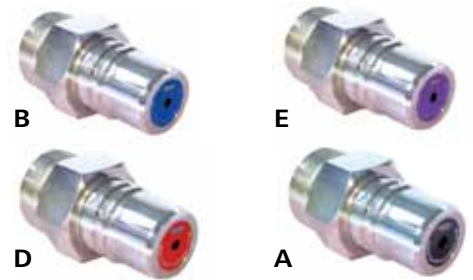
Diesel Receivers (For Pressurised Diesel Tank)

Steel & Aluminium Diesel Receivers

Part Number	Description
28-R150AC-A	Aluminium Receiver with plastic cap black poppet, rated for 9 psi. Used on standard diesel tanks on trucks etc.
28-R150AC-B	Aluminium Receiver with plastic cap, blue poppet, rated for 7 psi. Used on high and remote tanks.
28-R150AC-D	Aluminium Receiver with plastic cap, red poppet, rated for 11 psi. Used on negative head applications. Top fill pontoon.
28-R150SC-A	Steel Receiver with plastic cap black poppet, rated for 9 psi. Used on standard diesel tanks on trucks etc.
28-R150SC-B	Steel Receiver with plastic cap, blue poppet, rated for 7 psi. Used on high and remote tanks.
28-R150SC-D	Steel Receiver with plastic cap, red poppet, rated for 11 psi. Used on negative head applications. Top fill pontoon.
28-R150SC-E	Steel Receiver with plastic cap, purple poppet rated for 5 psi. Used on pressure units as a remote receiver in lieu of an R150SC-A, when using this remote receiver the 28-R150CV-Base and appropriate fittings must be used.

For receivers with aluminium caps order with "A" after the "C" in the above part numbers. eg. 28-R150SCA-A

NOTE: All the JSG x FFS Diesel Receivers & Diesel Vents have a 2" NPT Male thread. Do not use any 2" BSP x Half Sockets/Adaptors to mount any Diesel Units to the Diesel Tanks.



"2" Male NPT Base

Our standard diesel receiver is made from steel and is nickel-plated to ensure a long life. We also offer an anodised aluminium receiver for lower up-front cost. Our receivers are completely compatible with all major fast fill diesel fuel nozzles. The colour of the poppet indicates the pressure ratings of the Spring in the different Diesel Receivers.

Refer to page 29 for individual caps.

Flush Mount Bell Housing and Accessories

The flush mount Bell Housing allows your diesel tank to be fitted with a steel or aluminium receiver that does not protrude past the tank, providing a more safety and maintenance friendly solution.

The flanged bell housings are spun steel with a 2" NPT Female thread.

NOTE: To have the appropriate flange and diesel receiver combination, the flange and diesel receiver must be ordered as two separate items. All above diesel receivers suit both styles of Flanged Bell Housings.



Flanged Housing	Weld-On	Bolt-On
Part No	28-FFF-4C	28-FFF-5C

#NOTE: The 28-FFF-4C & 28-FFF-5C are also used with the Pressureless Diesel Units. See page 13 for Pressureless details.

The Flanged Housings are suitable to mount in Pressurised Diesel Tanks or the Pressureless Diesel Tank Units using the appropriate receivers.

Frequently flanged mounted diesel receivers are caked with dirt and mud. It is inevitable that eventually some of that contamination will find its way into the diesel tank.

To eliminate this problem the fitting of a skirt (28-FMF-SK) when used in conjunction with either the Fast Fill Plastic (28-C150P) or Aluminium (28-C150A) Diesel Receiver Dust Caps will provide total closure of the Bell Housing cavity and around the Diesel receiver eliminating contamination ingress.

Refer to page 30 for 28-FMF-SK installation instructions



28-FMF-SK

28-FFF-4C with 28-R150SC and 28-FMF-SK

28-C150A-SK (AL Dust Cap)
28-C150P-SK (Plastic Dust Cap)

Diesel Check Valves (For Pressurised Diesel Tanks)

Is your diesel refueling process plagued by constant dripping or a steady stream of Diesel? Chances are that your diesel receivers have not been changed out regularly or have been otherwise damaged. Worn receivers will cause leaking in the diesel refueling process and will prematurely wear out seals in the diesel nozzles, causing even more profuse leaking.

Check Valve with Replaceable Receiver & Dust Cap

28-R150CVC-A / 28-R150CVC-E

The Fast Fill "Check Valve" system is a revolutionary patented device that allows you to easily replace a worn receiver. As a safety device, it eliminates the potential of personnel being sprayed with diesel when uncoupling the nozzle from the receiver. As an environmental device, it helps eliminate diesel spills caused by damaged or worn receivers and from any potential misuse of proper receiver operation. It also eliminates the potential for diesel theft.

The Remote R150SC-E Receiver has been used with the 28-R150CV-BASE & the 28-AD150 or 28-AD150J to have a remote fill point with the check valve fitted directly to the diesel tank. Komatsu, CAT and other dump trucks that have a 2" npt female fitting/blanking plate on the inner wall of the diesel tank can have the remote check valve fitted to minimise diesel leaks if the diesel fill hose is damaged by debris from the haul roads, etc.

Attractively priced, you can retrofit your entire fleet for a minimal investment.

The savings from lost diesel or a spill incident will make this product a must for your operations. The receiver is steel and is available with black poppet (9psi) for standard diesel tanks or purple poppet (5 psi) for remote filling of standard diesel tanks.

For remote mounting receiver applications where the 28-R150CV-BASE is fitted with 28-AD150 or the 28-AD150J adaptors and a remote fill hose.



28-R150CVC-A
28-R150CVC-E (purple poppet, not shown)
Cap not shown
Refer to page 29 for individual caps.



28-R150CV-BASE
For remote applications.
2" NPT Male base thread



28-R150CVRV-E
Cap not shown



28-R150CVRV-A
Cap not shown

Check Valve Receiver

28-R150CVRC-A / 28-R150CVRC-E

The replacement receiver for the "Check Valve" system is made from steel and is nickel-plated. This is a specialised receiver that is designed to work with the "Check Valve" system, and is not interchangeable with a standard receiver.

The receiver is steel and comes in 9 PSI (black poppet) or 5 psi (purple poppet) pressure ratings for remote receiver applications.

Adaptors

When requiring a remote fill point in pressure systems these adaptors are available in choice of Female x 2" NPT or 2" JICM X 2.5". This allows for the use of in-tank check valve with a remote receiver connection.
Refer 28-R150CVC models above.

Part No	Description
28-AD150	Adaptor for a 2" NPT Male hose fitting or a 28-R150 unit
28-AD150J	Adaptor to suit a 2.5" JIC Swivel Hose Connection
28-AD150JR	Remote mount for a 2.5" JIC Swivel hose end & the 28-R150CVRV-E Receiver



28-AD150



28-AD150J



28-AD150JR Remote Adaptor with OPTIONAL Indicator

Diesel Vents (For Pressurised Diesel Tanks)

Diesel Fuel Vent Options			
Standard Vent			
	5" Extension	7" Extension	12" Extension
Type	Part No.	Part No.	Part No.
No Adaptor	28-V150	28-V150L7	28-V150L12
Half Coupling	28-V150A	28-V150AL7	28-V150AL12
Bolt on Flange	28-V150B	28-V150BL7	28-V150BL12
Anti Vandalism	28-V150D	28-V150DL7	28-V150DL12
Threaded Standard Vent			
Type	Part No.	Part No.	Part No.
No Adaptor	28-V150C	28-V150CL7	28-V150CL12
Half Coupling	28-V150CA	28-V150CAL7	28-V150CAL12
Bolt on Flange	28-V150CB	28-V150CBL7	28-V150CBL12
Anti Vandalism	28-V150CD	28-V150CDL7	28-V150CDL12
Whistle Vent			
Type	Part No.	Part No.	Part No.
No Adaptor	28-V150W	28-V150WL7	28-V150WL12
Half Coupling	28-V150WA	28-V150WAL7	28-V150WAL12
Bolt on Flange	28-V150WB	28-V150WBL7	28-V150WBL12
Anti Vandalism	28-V150WD	28-V150WDL7	28-V150WDL12
Threaded Whistle Vent			
Type	Part No.	Part No.	Part No.
No Adaptor	28-V150WC	28-V150WCL7	28-V150WCL12
Half Coupling	28-V150WCA	28-V150WCAL7	28-V150WCAL12
Bolt on Flange	28-V150WCB	28-V150WCBL7	28-V150WCBL12
Anti Vandalism	28-V150WCD	28-V150WCDL7	28-V150WCDL12



High Volume Vent		
Type	Standard Vent	Threaded Standard Vent
No Adaptor	28-V150H	28-V150WCL7
Half Coupling	28-V150HA	28-V150WCAL7
Bolt on Flange	28-V150HB	28-V150WCBL7
Anti Vandalism	28-V150D	28-V150WCDL7
With Check Valve	28-V150H-CKV	28-V150WCDL7



Anti-Vandalism
4" NPT (F)
Thread 28-V150D



Half Coupling
28-FV-P-8
28-V150A



28-V150H
High Volume

Vent Safety Relief Valve	
Type	Part No.
Safety Vent providing 4 levels of protection, Pressureless filling, Pressurised overflow protection, Audible pressureless failure notification and Safety Relief Valve	28-PLA150M-VLC4
Safety relief valve providing over-pressure protection in case of nozzle shut-off failure. Relieves 150GPM @ 15PSI & 325 GPM @ 25 PSI	28-V150R



Bolt-On Flange
28-FV-P-9



28-V150W
Whistle



28-V150R
Safety relief valve



28-PLA150M-VLC4
Safety Vent

Refer to page 29 for 2" NPT/FM Adaptors

All Steel Pressure Systems for Underground Coal Mining

1. For Diesel Fuel Handling

- Underground diesel fueling solution
- All steel construction with non-slip powder-coated finish
- Most forgiving latching mechanism in dirty conditions
- Vent (28-150S) and receiver (28-R150SC-A) accommodate flow rates up to 150 GPM



Pitboss Steel diesel fuel Nozzle 28-N150PBS



Steel Receiver 28-R150SC-A
(Shown without cap)



Steel Vent 28-V150S

Steel Vents	
Type	Part No.
Standard Steel Vent	28-V150S
7" Drop Steel Vent	28-V150SL7

Part #	28-N150PBS (28-N150PBSP w/Plug)
Flow rate (Min)	94.5 lpm/25gpm
Flow rate (Max)	567 lpm/150gpm
Operating pressure	5.17 bar/75psi
Diesel Inlet Port	1-1/2" NPT Standard
Weight	7.03 kg/15lbs 8oz

28-R150SC-A	Steel Receiver with plastic cap black poppet, rated for 9 psi. Used on standard diesel tanks on trucks etc.
28-R150SC-B	Steel Receiver with plastic cap, blue poppet, rated for 7 psi. Used on high and remote tanks.
28-R150SC-D	Steel Receiver with plastic cap, red poppet, rated for 11 psi. Used on negative head applications. Top fill pontoon.

2. For Fluid Handling

Crank Case



28-N100SP



28-R100SC

Hydraulic



28-N300SP



28-R300SC

Coolant



28-N200SP



28-R200SC

Transmission



28-N400SP



28-R400SC

All Standard Series operating pressure is 500 PSI with 1500 PSI burst pressure.
There is "no colour coding" on any steel QDC units.

Pressureless Fast Fill Shut Off System for Diesel Tanks

With a continuing trend towards the fitting of lightweight and plastic diesel tanks comes the heightened possibility of pressure damage. JSG has acted to eliminate this problem by introducing a system which does not rely on the build up of tank pressure to shut off the diesel flow and, as a result, one that can be used on thin metal and moulded plastic tanks where pressurized systems would otherwise distort or damage the diesel tanks.

System Operation

The simple operation of the Fast Fill Pressureless System sees a signal sent to the INLET shut-off valve to close once the tank is near full, initiated by a signal sent by a vent/float assembly, thereby eliminating any overfilling problems. With ease of installation or retrofit to most existing diesel tank configurations, the pressureless system provides another reason to install the Pressureless Diesel Tank System from JSG Industrial Systems.

Features:

- The Pressureless Diesel Tank System eliminates any pressure build up in the diesel tank, therefore eliminating any possibility of pressure damage to the diesel tank
- Prevents costly diesel fuel spills and is therefore environmentally friendly
- Provides an enhanced safety factor by automatically shutting off at the desired level in the diesel tank
- Eliminates blow back of diesel fuel on the operator while refueling and keeps the operator away from any diesel spills
- Stops diesel theft from the diesel receiver and allows a damaged receiver attachment to be changed when the diesel tank level is "Above the Receiver"
- Once the Inlet Valve closes, the diesel nozzle will automatically turn off. Overriding the pressure sensitive diesel nozzle is not a recommended practice for either pressureless or pressurised diesel tank filling operations and must be avoided. Damaged diesel tanks and diesel spills may result from this dangerous practice

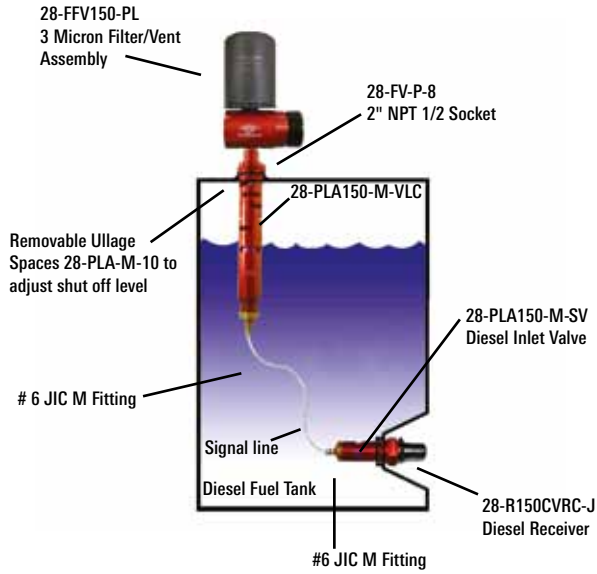
Technical Information

- The Pressureless Diesel Shutoff Units thread directly into an existing 2" NPT x 1/2 socket fitted to a standard pressurised diesel tank installation or a recessed bell housing adaptor or an existing flange mount with a 2" NPT socket
- The Pressureless Units can be adapted to most diesel tanks over 300 ltrs in size with custom made mounting adaptors
- Fill rate 120 LPM / 32 USGPM up to 800 LPM / 211 USGPM. It is not recommended that the flow rate be under the minimum flow rate
- No external sensing lines. The system has one internal Dash 6 "Signal Line"
- The Pressureless Units can be easily "Retrofitted" to existing tank configurations
- The Pressureless Units can be easily fitted to existing plastic diesel tanks
- The Pressureless Units can be "Direct in-tank" or "Remote fill installations"
- Proven design with major equipment manufacturers from haul trucks to dozers and other support equipment

Fastfill Systems have tested the 28-PLA150-M-SV units at 95LPM and 5 PSI at the nozzle inlet. At this flow rate and inlet pressure the Inlet Valve closes off with a 5 to 6 second delay. Where two (2) or more nozzles are used all the nozzles **MUST** meet this minimum requirement. The delay will be longer for flows below 95LPM . It is not recommended that the flow rate be under the minimum flow rate of 120LPM. The extra Diesel Volume would need to be taken into consideration for any fill rates as the Standard "SHUT OFF TIME is 3 seconds at 560 LPM.

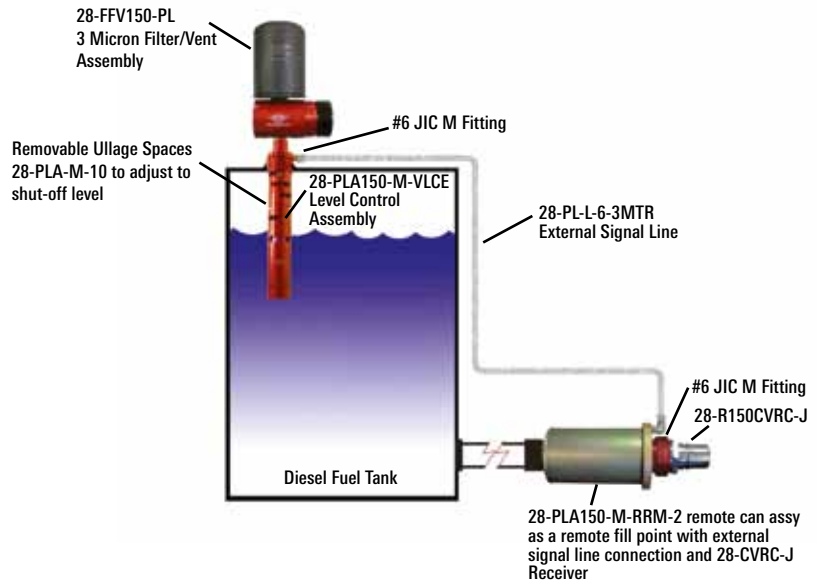
NOTE: At the lower diesel flow rate the Inlet Valve Shut Off will not be as firm as the higher diesel flow rates that this system can handle. Eg 800 LPM Max

Pressureless Fast Fill Shut Off System for Diesel Tanks



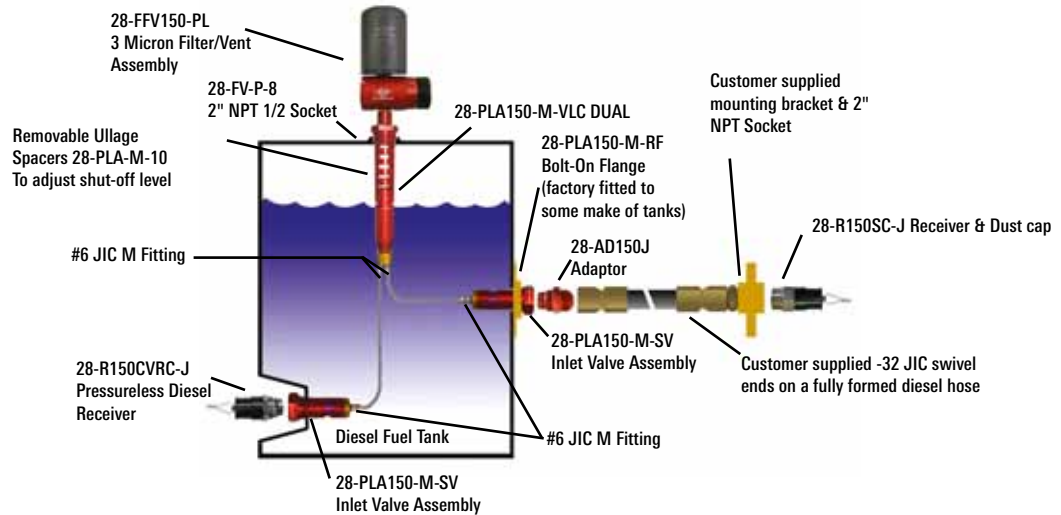
Internal Signal Line System for Pressureless Diesel Tanks
Kit P/N 28-PLA150-MICFFVDM

Signal line not included



External Signal Line for Pressureless Diesel Tanks
Kit P/N 28-PLA150-EXFFVDM

Signal line not included



Dual Filling System for Pressureless Diesel Tanks
Kit P/N 28-PLA150-Dual FFVDM

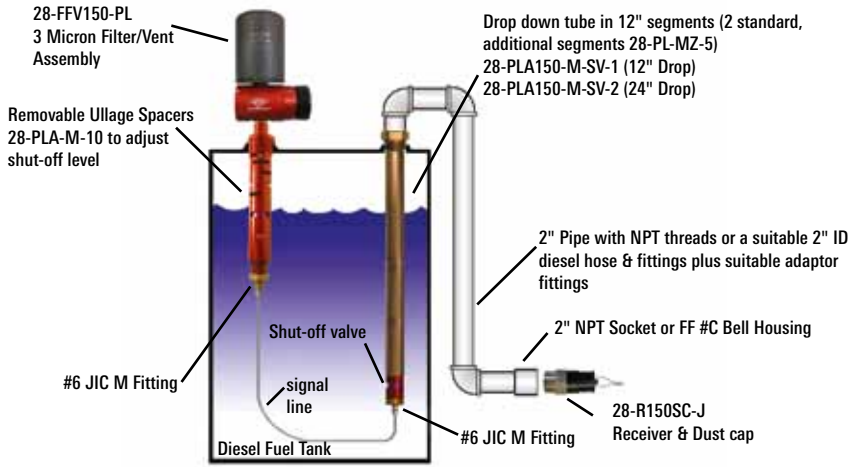
Signal line not included

Internal Signal Line Part Numbers

Part Number	Description
28-PL-P-1MTR-9/16	9/16JIC x 1.0M S/S Braided Signal Hose
28-PL-P-1.5MTR-9/16	9/16JIC x 1.5M S/S Braided Signal Hose
28-PL-P-2MTR-9/16	9/16JIC x 2.0M S/S Braided Signal Hose
28-PL-P-3MTR-9/16	9/16JIC x 3.0M S/S Braided Signal Hose
28-PL-P-4MTR-9/16	9/16JIC x 4.0M S/S Braided Signal Hose
28-PL-P-5MTR-9/16	9/16JIC x 5.0M S/S Braided Signal Hose

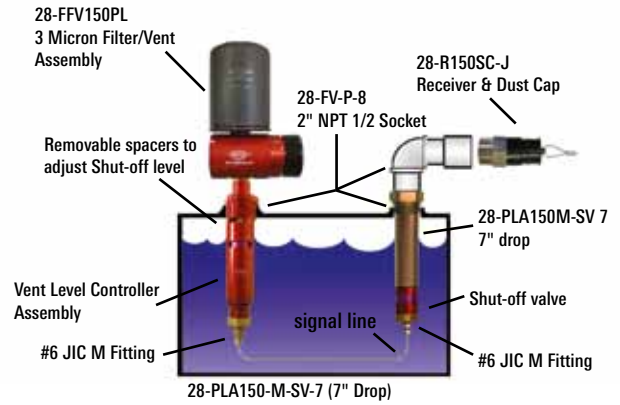
The pressureless systems are shown with 28-FFV150-PL Filter Vent other filter vents can be used as shown in the Filter Vent section - page 17

Pressureless Fast Fill Shut Off System for Diesel Tanks

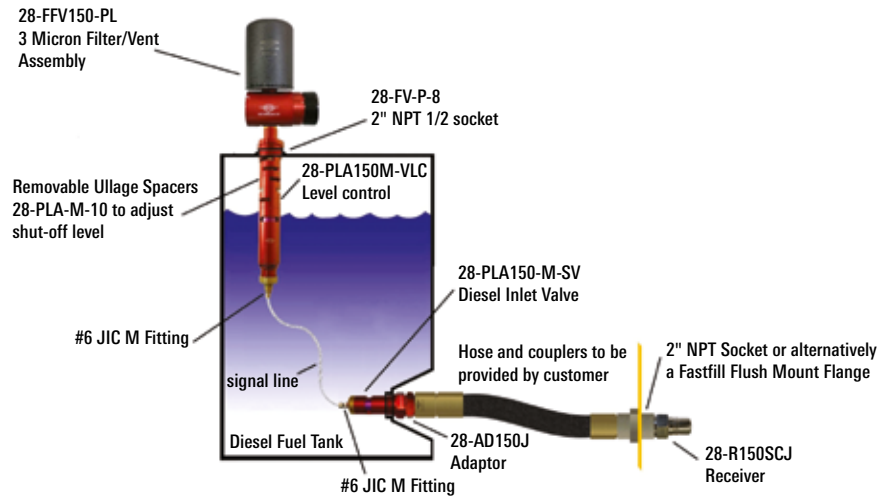


Top Fill System for Pressureless Diesel Tanks
Kit P/N 28-PLA150-TOPFFVDM
 Signal line not included

A std 28-PLA150-M-SV-7 that has a 7" segment is available for shallow pontoon diesel tanks and top fill gen. sets



Micro Top Fill System for Shallow Pontoon & Top Fill Generator Set Pressureless Diesel Tanks
Kit P/N 28-PLA150-PONFFVDM
 Signal line not included



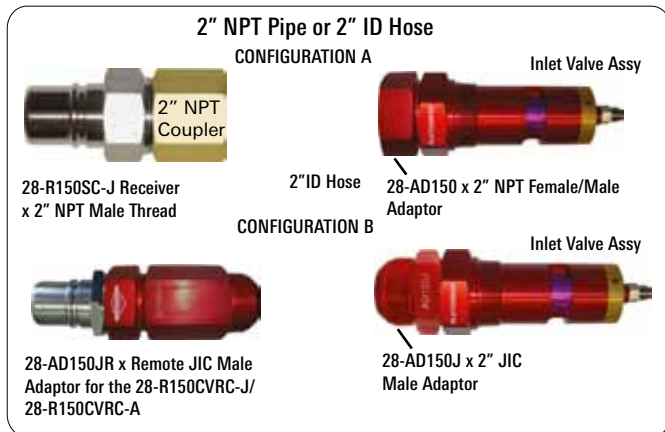
Internal Signal Line for Remote Fill Pressureless Diesel Tanks
Kit P/N 28-PLA150-MARFFVDM
 Signal line not included

The pressureless systems are shown with 28-FFV150-PL Filter Vent other filter vents can be used as shown in the Filter Vent section - page 17

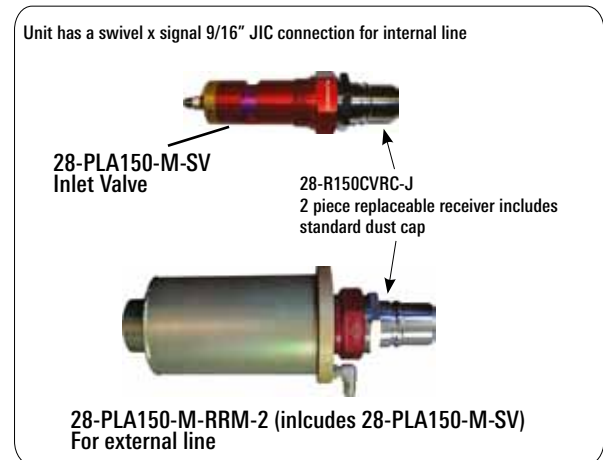
Pressureless Fast Fill Shut Off System For Diesel Tanks

1. Pressureless Inlet Valve Assembly

For remote tank mount applications



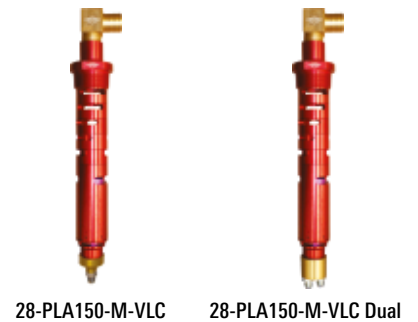
For direct tank mount applications



2. Pressureless Level Control

The level controls can be either Single Line, Dual Line or External Line. The Level Controls have removeable Ullage Spacers (28-PLA-M-10) these are used to adjust the shut off-level. Examples are shown on page 14 & 15.

Internal Single line: 28-PLA150-M-VLC
 Internal Dual line: 28-PLA150-M-VLC DUAL
 External Single line: 28-PLA150-M-VLCE



Steel Diesel Receiver

Part Number	Description
28-R150SC-J	Steel Receiver with plastic cap, green poppet rated for 5 psi. Used on pressureless tank systems for "in tank" or remote mounting.

Our standard diesel receiver is made from steel and is nickel-plated to ensure a long life. Our receivers are completely compatible with all major fast fill diesel fuel nozzles. The colour of the poppet indicates the pressure ratings.

2" Male NPT Base

All Pressureless Diesel Receivers are made of Steel and have a GREEN Poppet. The PLA150M-SV and the R150CVRC-J use the Bell Housing as the mount on various units, such as articulated trucks and remote fill points.



28-R150SC-J
cap not shown

The Two Piece Check Valve Receiver 28-R150CVRC-J

The replacement receiver for the Pressureless Diesel Tank System is made from steel and is nickel-plated. This is a specialised receiver that is designed to work with the 28-PLA150-M-SV Inlet Valve and can be fitted to the 28-AD150JR Remote Adaptor when a Remote Diesel Receiver Installation is required.

The 2 piece receiver has a 5psi Green Poppet pressure rating and is not interchangeable with standard 2" npt base diesel receivers.

NOTE: The 2 piece receiver is not interchangeable with the standard 2" NPT Base Diesel Receiver.
 Use the 28-AD150JR Adaptor for a remote install.



28-R150CVRC-J
cap not shown

Refer to page 29 for individual caps.

Diesel Filter Vents

Direct Mount Filter Assembly 28-FFV150-PL

The direct mount 3 micron filter with 2 check valves for air flow in and out mounted directly onto the level control vent unit 28-PLA150M-VLC.

Replacement 3 Micron filter can. Part no. 28-FFV-P-6.



Remote Mount Filter Assembly 28-FFV150

The remote mount 3 micron filter with 2 check valves for air flow in and out has a low profile for variable placement and universal mounting bracket for easy installation for side or bottom mounting. Only 200mm high.

Replacement 3 Micron filter can. Part no. 28-FFV-P-6.



Breather and Filter Vent with Check Valve

The Breather Check Valve 28-FF150-BCKV is used in conjunction with the Vent with Check Valve 28-V150H-CKV.

With an all metal construction the vent assembly has a one way check valve on air discharge which allows venting over 300gpm diesel fueling rate and prevents air from entering the tank through the vent opening.

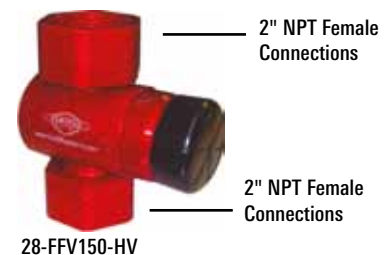
Only filtered air (recommended 3 micron) is allowed into the diesel fuel tank, while the check valve on the filter prevents diesel fuel contacting the filter media.

Replacement 3 Micron filter can. Part no. 28-FFV-P-6.



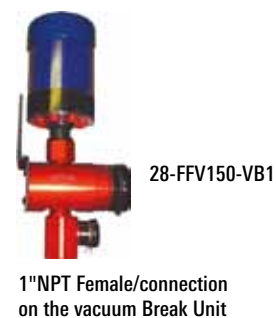
High Volume Filter Vent

If high volume filling is required, the Fastfill High Volume Filter Vent, part number 28-FFV150-HV, should be considered. It is also the ideal vent for large storage tanks and uses an enlarged Filter Check Valve.



Filter Vent with Vacuum Break

The FFV150-VB1 Filter Vent with vacuum break is used in conjunction with a desiccant filter (filter not included). When using desiccant filters on a tank, this style of Filter Vent will improve filter life.



Diesel Flowmeters

To compliment the Fastfill product JSG have available a range of oval gear flowmeters which provide high levels of accuracy and repeatability. Among the many flowmeter design principles available today, the oval gear still holds a top place both in simplicity and field proven performance.

General Specifications:

- Flow Range : 1~450 litres/min (0.26~120 USGPM)
- Nominal Sizes : 15~50mm (1/2"~2")
- Linearity : +/-0.5% of reading
- Repeatability : +/-0.03% repeatability
- Temperature : -20~+ 1200C (-4~2500F)
- Materials : 316 stainless steel or aluminium
- Pulse Outputs : reed switch & NPN open collector (normal)

Standard Options:

- Modular process connections
- LCD Totaliser
- LCD Flow Rate Totaliser
- LCD Two Stage Batch Controller
- Intrinsically Safe EX proof (IECex & ATEX approved) instruments
- 4-20mA, scaled pulse and alarm outputs
- Integral mechanical totaliser/batch register
- Quadrature pulse output
- Flanged or threaded inlet/outlet

Meters up to 4" (2500 LPM Max.) are available on request



With Mechanical Register



Stainless Steel Pulse Meter with Digital Register



Remote Capable Register



Aluminium Pulse Meter with Digital Register



Blind Pulse Meter

Additional Diesel Accessories

Bulk Diesel Nozzle 28-N150B

The bulk transfer nozzle mates with the standard diesel receiver 28-R150#. This arrangement is used to transfer diesel to/from the diesel tanks/storage. The 28-N150B is commonly used as the QDC connection to evacuate the diesel from the diesel tanks and "Out of Service" diesel powered units. The Bulk Transfer nozzle is made of aluminium, and has an anodised actuating collar.

1 1/2" NPT Female Base

Refer to page 28 for individual plugs



28-N150B
28-N150BP (with plug)

Diesel Nozzle Adapters

Our nozzle adaptors mate with a standard fast fill diesel nozzle to provide an extension to "splash fill" equipment. Adaptors are made from anodised aluminium, and are available in three different configurations.



28-A150B

Item	Angle
28-A150A	Straight
28-A150B	90°
28-A150C	45°

Automatic Shutoff Diesel Nozzles

Item (Includes Swivel)	Inlet Size	Description
15-F00603060	1"	Automatic A60 shut-off nozzle, 24mm external diameter spout, 70 L/M weight 1.25kg (Leaded)
15-F00602020	1"	Automatic A60 shut-off nozzle, 20mm external diameter spout, 70 L/M weight 1.20kg (Unleaded)
15-F00604030	1"	Automatic A80 shut-off nozzle, 29mm external diameter spout, 90 L/M weight 1.93kg
15-F00610020	1"	Automatic A120 shut-off nozzle, 29mm external diameter spout, 120 L/M weight 1.93kg
15-F13249000	1 1/2"	High flow automatic A280 shutoff nozzle, 38.5mm external diameter spout, 280 L/M, weight 3.3kg



15-F13249000



15-F00603060
15-F00602020
15-F00604030
15-F00610020

CAT/SHAW 6 Bolt Flange Assemblies

CAT/SHAW 6 bolt flange assemblies are available for vent and receiver applications with both flanges having 2" NPT Female threads.



28-PLA150-M-RF



28-PLA150-M-VF

Vent Flange 28-FV-P-9 & Half Socket 28-FV-P-8

2" NPT Flange Mount for use with diesel receivers and vents. Weld on socket for use with diesel receivers (pressurised and pressureless) and diesel vents.



28-FV-P-8
70mm OD x 25.4mm high socket with 2" NPT thread.



28-FV-P-9

Swivels & Safety Breakaway Couplers

Swivels/Breakaways

Additional sizes, angles or configurations may be available. Please contact us for any sizes not shown.

Size/Thread Type	Safety Breakaway Coupler	Single Plane Swivel	45° Hose Swivel	90° Hose Swivel	Multi-plane Swivel
3/4" BSP	28-AB34B	28-AWS34B	28-AWSP34	28-AWSP349	28-AC3434
3/4" NPT	28-AB34	28-AWS34			
1" BSP	28-AB1B	28-AWS10B			
1" NPT	28-AB1	28-AWS10	28-AWSP11	28-AWSP119	28-AC1010
1 1/4" NPT	28-AB14	28-S125			
1 1/2" NPT	28-AB15	28-S150 *			
2" NPT	28-AB2	28-S200 **			
2" NPT Male X 1 1/2" Female Swivel		28-S215**			

* NOTE: For use with Diesel Nozzles with 1 1/2" NPT (F) inlet Titan, Pitboss, Sureloc, Raptor & Classic Diesel Nozzles

** For use with the 28-N150SL800P Sureloc or 28-N150R800P Raptor diesel nozzle with a 2" NPT (F) inlet.



Multi-Plane
(360° in two planes)



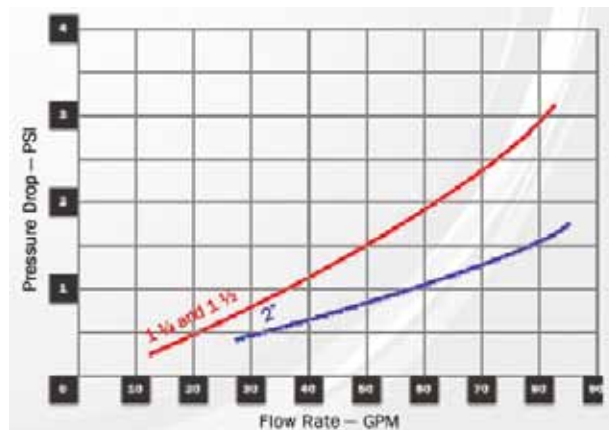
Single-Plane

Safety Breakaway Coupler	Repair Kit
28-AB34	28-BA34K
28-AB1	28-BA1K
28-A14	28-BA14K
28-AB15	28-BA15K
28-AB2	28-BA2K

- Safety Breakaway Coupler is designed to separate at approximately 91 kg (200lbs) pull force to minimise back lash thereby reducing damage
- The Safety Breakaway Couplers are reusable up to the time they can no longer be repaired without leaks
- A repair kit is required for each Breakaway incident
- The repair kit fits both NPT & BSP products



Safety Breakaway Coupler



Crankcase Nozzles & Receivers

Standard & Full Steel Nozzle 28-N100P & 28-N100SP

The body of the 28-N100P crankcase nozzle is made from nickel-plated steel, while the collar is made of anodised aluminium.

The body of the 28-N100SP crankcase nozzle is made from all steel, with steel collar & steel plug for applications requiring such product.

Both models have a 3 pin latching mechanism and a 3/4" Male NPT Base



28-N100
28-N100S
28-N100SP (with plug)
28-N100P (with plug)

Universal **U** Series Standard Nozzle 28-N100UP & Full Steel Nozzle 28-N100USP

Our universal crankcase nozzle 28-N100UP, can accept either a Standard or the "R" series crankcase receiver. The body of the universal crankcase nozzle is made from nickel-plated steel, while the collar is made of anodised aluminium.

The all steel version 28-N100USP is to be used with the 28-R100SC all steel receiver.



28-N100U
28-N100UP (with plug)
28-N100US
28-N100USP (with plug)

Nozzle **R** Series 28-N100RP

Accepts an "R" series crankcase receiver. The body of the crankcase nozzle is made from nickel-plated steel, while the collar is made of anodised aluminium.

3/4" Female NPT Base



28-N100R
28-N100RP (with plug)

Standard & Full Steel Receiver 28-R100C & 28-R100SC

The body of the 28-R100C crankcase receiver is made from nickel-plated steel, while the poppet is made of anodised aluminium.

The body of the 28-R100SC crankcase receiver is made from all steel with a steel poppet and steel dust cap for applications requiring such product.

3/4" Male NPT Base.

For Bulkhead Receiver refer to page 27.



28-R100
28-R100S
28-R100C (with cap)
28-R100SC (with cap)

Receiver **R** series 28-R100RC

Accepts an "R" series crankcase nozzle. The body of the crankcase receiver is made from nickel-plated steel, while the poppet is made of anodised aluminium.

Base ID = Female 1 5/16" – 12

Base OD = Male 1 5/8" – 12

The standard range of nickel plated crankcase nozzles and receivers (refer page 26) are now available in a full 8 colour range where required including red (existing), green, blue, purple, grey, orange, yellow and gold, colours not available in steel. Please note these do not form part of the MATRIX range and any coloured nozzle will fit with any coloured receiver. MOQ applies. For MATRIX information, see page 25.

All Standard and "R" series operating pressure is 500 PSI with 1500 PSI burst pressure.



28-R100R
28-R100RC (with cap)

Refer to page 29 for individual caps.

Coolant Nozzles & Receivers

Standard Nozzle 28-N200P & 28-N200SP

The body of the 28-N200P coolant nozzle is made from nickel plated steel, while the collar is made of anodised aluminium.

28-N200SP coolant nozzle is made from all steel with a steel collar & steel plug for applications requiring such product.

28-N200, 28-N200S 1/2" Male NPT Base
28-N200 34 3/4" Male NPT Base



28-N200
28-N200S
28-N200P (with plug)
28-N200SP (with plug)
28-N200 34
28-N200 P 34 (with plug)

Standard Receiver 28-R200C & 28-R200SC

The body of the 28-R200C coolant receiver is made from nickel plated steel, while the poppet is made of anodised aluminium.

28-R200SC coolant receiver is made from all steel, with a steel poppet & steel dust cap for applications requiring such product.

1/2" Male NPT Base

For Bulkhead Receiver refer to page 27



28-R200
28-R200S
28-R200C (with cap)
28-R200SC (with cap)

Nozzle *R* series 28-N200R

The body of the coolant nozzle is made from nickel-plated steel, while the collar is made of anodised aluminium.

1/2" Female NPT Base



28-N200R
28-R200RP (with plug)

Receiver *R* series 28-R200R

The body of the coolant receiver is made from nickel-plated steel, while the poppet is made of anodised aluminium.

Base ID = Female 7/8" – 14
Base OD = Male 1 3/16" – 12

NOTE: These units do not form part of the MATRIX range, for MATRIX information, see page 25.
All Standard and "R" series operating pressure is 500 PSI with 1500 PSI burst pressure.



28-R200R
28-R200RC (with cap)

Refer to page 29 for individual plugs & caps.

Hydraulic Nozzles & Receivers

Standard Nozzle 28-N300P & 28-N300SP

The body of the 28-N300P hydraulic nozzle is made from nickel-plated steel, while the collar is made of anodised aluminium. The standard mechanism is a steel dog however it is now available with ball latch 28-N300B.

28-N300SP hydraulic receiver is made from all steel with a steel collar & steel plug for applications requiring such product.

Standard thread size $\frac{3}{4}$ " Female NPT Base
Also available as $\frac{3}{4}$ " Male NTP, part no. 28-N300-34



28-N300P-34
28-N300
28-N300S
28-N300P (with plug)
28-N300SP (with plug)
28-N300B - Ball Latch
28-N300-34

Standard Receiver 28-R300C & 28-R300SC

The body of the 28-R300C hydraulic receiver is made from nickel-plated steel, while the poppet is made of anodised aluminium.

28-R300SC hydraulic nozzle is made from all steel with a steel collar & steel plug for applications requiring such product.

$\frac{3}{4}$ " Male NPT Base.

For Bulkhead Receiver refer to page 27



28-R300
28-R300S
28-R300C (with cap)
28-R300SC (with cap)

Nozzle *R* series 28-N300RP

The body of the hydraulic nozzle is made from nickel-plated steel, while the collar is made of anodised aluminium.

1" Female NPT Base



28-N300R
28-N300RP (with plug)

Receiver *R* series 28-R300RC

The body of the hydraulic receiver is made from nickel-plated steel, while the poppet is made of anodised aluminium.

Base ID = Female 1 5/8" – 12

Base OD = Male 1 7/8" – 12



28-R300R
28-R300RC (with cap)

NOTE: These units do not form part of the MATRIX range, for MATRIX information, see page 25
All Standard and "R" series operating pressure is 500 PSI with 1500 PSI burst pressure.

Refer to page 29 for individual plugs and caps.

Transmission Nozzles & Receivers

Standard Nozzle 28-N400P & 28-N400SP

The body of the 28-N400P transmission nozzle is made from nickel-plated steel, while the collar is made of anodised aluminium.

28-N400SP transmission receiver is made from all steel with a steel collar & steel plug for applications requiring such product.

Standard thread size 1/2" Male NPT Base

Also available as 3/4" Male NTP, part no. 28-N400-34

And 3/8" Female NPT, part no. 28-N400-38



28-N400
28-N400S
28-N400P (with plug)
28-N400SP (with plug)
28-N400-34 3/4" NPT Male Base
28-N400-38 3/8" NPT Female Base

Standard Receiver 28-R400C & 28-R400SC

The body of the

28-R400C transmission receiver is made from nickel-plated steel, while the poppet is made of anodised aluminium.

28-R400SC transmission nozzle is made from all steel with a steel collar & steel plug for applications requiring such product.

1/2" Male NPT Base

For Bulkhead Receiver refer to page 27



28-R400
28-R400S
28-R400C (with cap)
28-R400SC (with cap)

Nozzle *R* series 28-N400R

The body of the transmission nozzle is made from nickel-plated steel, while the collar is made of anodised aluminium.

3/4" Female NPT Base



28-N400R
28-N400RP (with plug)

Receiver *R* series 28-R400R

The body of the transmission receiver is made from nickel-plated steel, while the poppet is made of anodised aluminium.

Base ID = Female 1 1/16" – 12

Base OD = Male 1 5/16" – 12

NOTE: These units do not form part of the MATRIX range, for MATRIX information, see page 25.

All Standard and "R" series operating pressure is 500 PSI with 1500 PSI burst pressure.



28-R400R
28-R400RC (with cap)

Refer to page 29 for individual plugs & caps.

Matrix 34 Series Nozzles & Receivers

Total Prevention of Cross Contamination

The MATRIX range of 3/4" (34 series) R310-R380 series receivers and N210-N280, N310-N380 series nozzles are available from JSG Industrial Systems. The matrix range has been designed to allow users the ability to utilize the same sized nozzle and receiver across a single operation whilst being able to clearly differentiate between a variety of fluids commonly used on site.

Significantly, the products have been designed so that, while each series model has the same sized outer diameter, interlocking is only possible between nozzles and receivers of the same colour, thus preventing any cross contamination between usable fluids and allowing standardization of colours with relevant fluids across multiple sites or locations.

Features:

- All models come with colour coded nozzle/receiver to differentiate between commonly used fluids
- Capable of interlocking only with corresponding colour connector to prevent cross contamination
- All receivers fitted with caps and all nozzles fitted with plugs are stocked by JSG
- Receivers available without caps and nozzles without plugs upon request
- All receivers can be supplied with JIC fitting upon request. For this requirement minimum order quantity applies
- Machined steel body with coloured aluminium sleeves on nozzles
- Machined steel body with coloured aluminium poppets on receivers



Specifications:

- Temperature range: from -53°C to 135°C (-65°F to 275°F)
- Operating pressure 34 series: 1500 psi (with 3:1 safety factor)



Matrix Nozzles & Receivers

NOZZLES		
Part No.	Description	Plug Colour
28-N210P	FastFill Matrix 3/4" Nozzle	Green
28-N220P	FastFill Matrix 3/4" Nozzle	Blue
28-N230P	FastFill Matrix 3/4" Nozzle	Purple
28-N240P	FastFill Matrix 3/4" Nozzle	Grey
28-N250P	FastFill Matrix 3/4" Nozzle	Orange
28-N260P	FastFill Matrix 3/4" Nozzle	Yellow
28-N270P	FastFill Matrix 3/4" Nozzle	Red
28-N280P	FastFill Matrix 3/4" Nozzle	Gold

NOZZLES		
Part No.	Description	Plug Colour
28-N310P	FastFill Matrix 3/4" Nozzle	Green
28-N320P	FastFill Matrix 3/4" Nozzle	Blue
28-N330P	FastFill Matrix 3/4" Nozzle	Purple
28-N340P	FastFill Matrix 3/4" Nozzle	Grey
28-N350P	FastFill Matrix 3/4" Nozzle	Orange
28-N360P	FastFill Matrix 3/4" Nozzle	Yellow
28-N370P	FastFill Matrix 3/4" Nozzle	Red
28-N380P	FastFill Matrix 3/4" Nozzle	Gold

RECEIVERS		
Part No.	Description	Cap Colour
28-R310C	FastFill Matrix 3/4" Receiver	Green
28-R320C	FastFill Matrix 3/4" Receiver	Blue
28-R330C	FastFill Matrix 3/4" Receiver	Purple
28-R340C	FastFill Matrix 3/4" Receiver	Grey
28-R350C	FastFill Matrix 3/4" Receiver	Orange
28-R360C	FastFill Matrix 3/4" Receiver	Yellow
28-R370C	FastFill Matrix 3/4" Receiver	Red
28-R380C	FastFill Matrix 3/4" Receiver	Gold

* All receivers fitted with caps & all nozzles fitted with plugs
 * All receivers & nozzles can be supplied with JIC fitting upon request, MOQ apply

Matrix Evacuation Tool 28-ET290 & ET290J

The 28-ET290 and 28-ET290J Matrix Evacuation Tool is designed to inter-lock with all R310 – R380 Matrix receivers for evacuation purposes, thereby eliminating the need to employ different coloured nozzles when evacuating waste product.

The 28-ET290 is designed with a 3/4" NPT Female thread while the 28-ET290J is designed with a 1 5/16" -16 JIC Male hose connection.

- One-way Evacuation Only Design
- Fits all Matrix receivers R310 to R380
- Internal Check Valve prevents use for filling & stops cross contamination
- Operating Pressure up to 103 bar (1,500 psi)



28-ET290J

MATRIX EVACUATION TOOLS	
Part Number	Description
28-ET290	MATRIX Evacuation Tool with 3/4" NPT Female Thread - Teal Colour
28-ET290J	MATRIX Evacuation Tool with 1 5/16 – 16 JIC Male Thread - Black Colour

Bulk Head Fittings & Service Units

Bulkhead Receivers

The Bulkhead Receiver has an extended JIC Thread base that can be mounted through and secured to a steel backing plate.

The body of the Receivers are made from nickel-plated steel, while the poppet is made of anodised aluminium. The poppets are coloured to suit the PRODUCT.

-12 JIC Male BASE/Thread size = 1 1/16" x 12 TPI / Lock Nut included.



Part No.	Description	Colour
28-R100JC	Bulkhead Crankcase Receiver with Dust Cap	Red
28-R200JC	Bulkhead Coolant Receiver with Dust Cap	Blue
28-R300JC	Bulkhead Hydraulic Receiver with Dust Cap	Yellow
28-R400JC	Bulkhead Transmission with Dust Cap	Silver

Service Boxes 28-SB100

Service boxes can be mounted to your mobile and stationary equipment to provide a central location for evacuation and refilling of your crankcase, coolant, hydraulic, transmission and diesel fluids. The service boxes are customised to any number or types of configurations.



28-SB100

Special Colours Available for Crankcase Nozzles & Receivers

Eight Coloured 28-N100UP Nozzles and 28-R100C Receivers

These Nozzles and Receivers are used where some companies allocate colours for different Oils and other Fluid applications. They do not prevent cross contamination and only to be used for colour coding purposes. Refer Matrix units for prevention of cross contamination page 25.

These Nozzles & Receivers are not available in all steel.

Colour Code	Nozzles "U" Series	Receiver Standar R10#C
Red	28-N100UP	28-R100C
Green	28-N101UP	28-R101C
Blue	28-N102UP	28-R102C
Purple	28-N103UP	28-R103C
Grey	28-N104UP	28-R104C
Orange	28-N105UP	28-R105C
Yellow	28-N106UP	28-R106C
Gold	28-N108UP	28-R108C

MOQ applies

Dust Cap Monitoring System (DMS) For Mobile Units

Dust Cap Monitoring Systems (DMS)

The Monitoring Dust cap system has been designed to add an additional degree of safety to your operation by ensuring that machines involved in diesel and fluid refilling or evacuation operations are rendered inactive throughout the filling process. The Monitoring Dust cap system will eliminate accidental drive away if any fluid nozzle is still connected to the onboard Product Receivers & the INDIVIDUAL DMS caps are not refitted to the individual Receivers in the systems.

The Monitoring Dust cap system consists of modified diesel or fluid dust cap fitted to provide a signal to an alarm a warning device such as flashing light or even the on board demobiliser unit. This signal will remain with the warning device until such time that the DMS cap is with an inductive proximity switch that will securely be fitted to the appropriate receivers. At the same time, having the machine operable only when the dust caps are fitted, ensures that dirt and other potential contaminates are not able to ingress into the diesel or fluid tanks through the fill point.



Dust Cap with Prox unit

28-C150DMS

Additional Benefits:

- Enhances your Hydrocarbon Management Systems
- Eliminates the risk of vehicle movement during the refilling or evacuation process
- Eliminates the risk of damage to people, property and equipment
- Minimises the risk of damage to the environment
- Minimises wear to refilling or evacuation hardware and reduce contamination to the diesel or fluid systems

Part No.	Suit Receiver	Application
28-C150DMS	28-R150	Diesel
28-C100DMS*	28-R100, 28-R100R	Crankcase
28-C200DMS*	28-R200	Coolant
28-C300DMS*	28-R300	Hydraulic
28-C400DMS*	28-R400	Transmission
28-C100RDMS*	28-R100R	Crankcase
28-C200RDMS*	28-R200R	Coolant
28-C300RDMS*	28-R300R	Hydraulic
28-C400RDMS*	28-R400R	Transmission

NOTE: *Caps available on a minimum quantity request

Additional Accessories

Special Komatsu Fill/Evacuation Kit Flange

Special 2 Hole Flange x JIC 1 1/16-12TPI for Komatsu only Part Number 28-FL100/12



28-FL100/12

Caps and Plugs

To protect your investment, we offer caps and plugs for all of the nozzles and receivers. Caps and plugs are available in anodised aluminium or steel plastic caps also available for diesel receivers and include a lanyard made from vinyl-enclosed steel cable.

All Caps & Plugs

CRANKCASE			COOLANT			HYDRAULIC		
Base Item	Cap/Plug	Material	Base Item	Cap/Plug	Material	Base Item	Cap/Plug	Material
28-N100	28-P100	Aluminium	28-N200	28-P200	Aluminium	28-N300	28-P300	Aluminium
28-N100R	28-P100R	Aluminium	28-N200R	28-P200R	Aluminium	28-N300R	28-P300R	Aluminium
28-N100S	28-P100S	Steel	28-N200S	28-P200S	Steel	28-N300S	28-P300S	Steel
28-R100	28-C100	Aluminium	28-R200	28-C200	Aluminium	28-R300	28-C300	Aluminium
28-R100J	28-C100	Aluminium	28-R200J	28-C200	Aluminium	28-R300J	28-C300	Aluminium
28-R100R	28-C100R	Aluminium	28-R200R	28-C200R	Aluminium	28-R300R	28-C300R	Aluminium
28-R100S	28-C100S	Steel	28-R200S	28-C200S	Steel	28-R300S	28-C300S	Steel

TRANSMISSION			DIESEL NOZZLES			DIESEL RECEIVERS		
Base Item	Cap/Plug	Material	Base Item	Plug	Material	Base Item	Cap	Material
28-N400	28-P400	Aluminium	28-N150C	28-150P	Aluminium	28-R150A	28-C150A	Aluminium
28-N400R	28-P400R	Aluminium	28-N150SL	28-150P	Aluminium	28-R150A	28-C150P	Plastic
28-N400S	28-P400S	Steel	28-N150SL800	28-150P	Aluminium	28-R150S	28-C150A	Aluminium
28-R400	28-C400	Aluminium	28-N150PB	28-150P	Aluminium	28-R150S	28-C150P	Plastic
28-R400J	28-C400	Aluminium	28-N150T	28-150P	Aluminium	28-R150CV	28-C150A	Aluminium
28-R400R	28-C400R	Aluminium				28-R150CV	28-C150P	Plastic
28-R400S	28-C400S	Steel						



Plugs



28-C150P



Caps

Working Tools & Oil Sampling

Receiver Tool 28-R150SW

The receiver tool is a 2½" deep socket that is used to remove receivers from the Diesel tank when they have become worn and need to be replaced. The tool is universal for all Fast Fill Systems™ receivers, including our steel, aluminium and check valve receivers.



28-R150SW

Check Valve Tool 28-KR150CV

The installation kit 28-KR150CV for the "Check Valve" system, includes an Installation Socket 28-R150CVSW and Drain Tool 28-R150CVDT. The installation socket is specifically designed for the "Check Valve", and is a required tool for installation. In the event that you need to drain your diesel tank, the drain tool makes this possible. These items can be ordered separately if required.



28-R150CVDT

28-R150CVSW

Draining Tool 28-PLA150-M-DT

To be used in conjunction with the pressureless inlet valve, 28-PLA150M-SV for the draining of diesel from the tank when fitted with a pressureless system.



28-PLA150-M-DT

28-FMF-SK Skirt Installation Instructions - Placing Skirt on Diesel Dust Cap

When mounting the skirt onto the dust cap, the easiest way is:

1. Lubricate around the back end (closed section) of the dust cap.
2. Feed skirt over lanyard remembering the larger outer diameter of the skirt is facing to the back of the dust cap.
3. Push skirt over the end of the dust cap all the way to the smaller recess located near the middle of the dust cap.
4. When placing the dust cap on the receiver that is mounted inside the flange, be sure to push the cap all the way in as the skirt will provide some resistance.



28-G150XXX



28-C150P with skirt 28-FMF-SK

Oil Sampling Valves with Bottle

28-OS100 (½" NPT)

28-OS100-34 (¾" NPT)

The oil sampling valve can be fitted onto your existing crankcase line to allow samples to be drawn. The valve is made from anodised aluminium and includes a sample container.



28-OS100

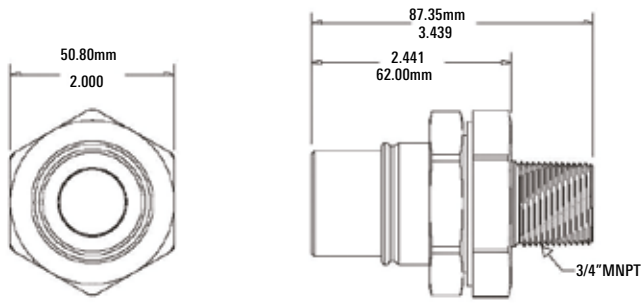
28-OS100-34

Replacement sample bottle - 28-OS100B

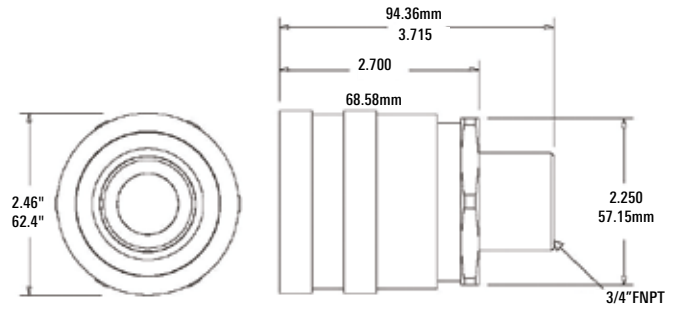
Technical Specifications & Flow Tests

Matrix 3/4" x 2#0 and 3#0: Series Product Dimensions

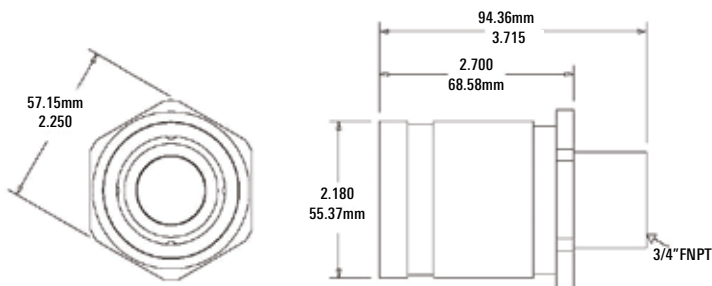
Series R310 to R380



Series N310 to N380

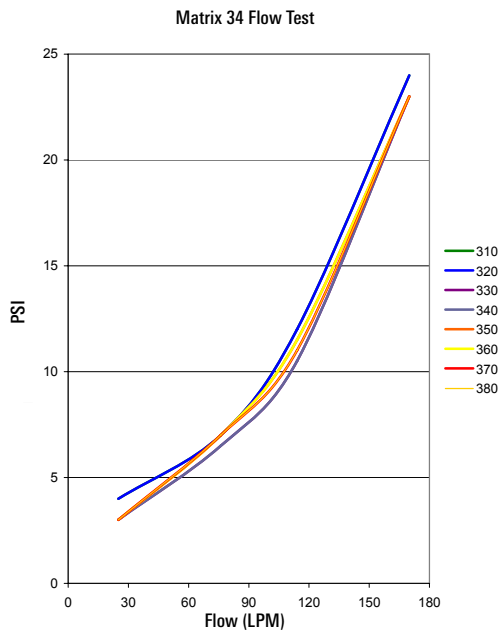


Series N210 to N280

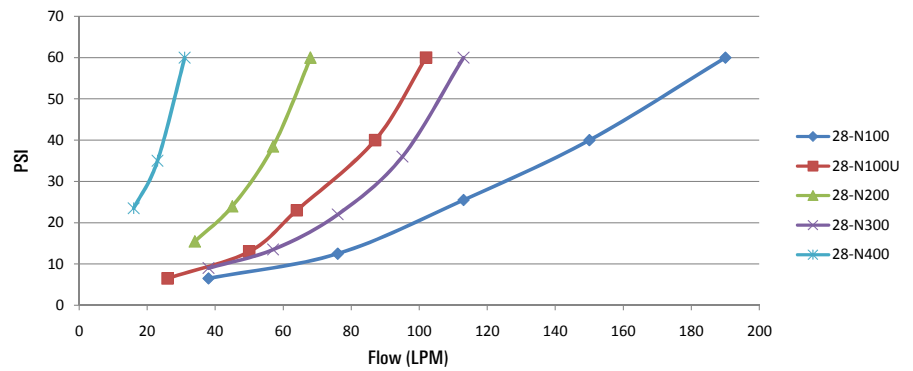


Flow Tests

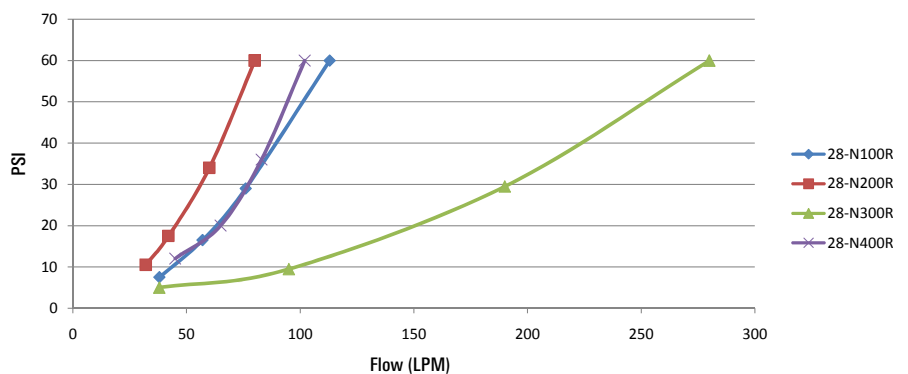
Matrix 3/4" x 2#0 and 3#0 Series



Couplers - Standard



Couplers - "R" Series



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