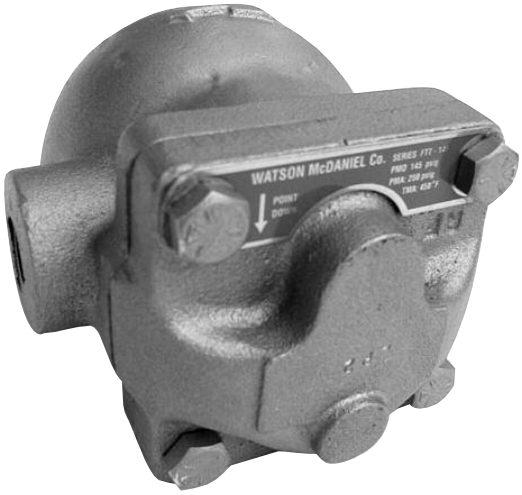
Liquid Drainers

Liquid Drainers

Model/Series	Type	Body Material	PMO (PSIG)	Sizes	Connection	Page No.
WLDE **WLDES**	Float Float	Ductile Iron Cast Steel	200 300	1 1/2", 2", 2 1/2" 2 1/2"	NPT NPT, SW, FLG	**208-209**
WLD600 **WLD601**	Float Float	Carbon Steel 316 Stainless Steel	450	3/4" – 4"	NPT, SW, FLG	**210-211**
WLD1400	Float	Ductile Iron	300	1/2" – 2"	NPT	**212-213**
WLD1500	Inverted Bucket	Cast Iron	200	3/4", 1"	NPT	**214-215**
WLD1703S	Thermodynamic	Stainless Steel	250	1/2"	NPT	**216**
WLD1800/1800R	Guided Float	Stainless Steel	400	1/2", 3/4"	NPT	**217-218**
WLD1900	Float	Cast Iron	250	3/4" – 2"	NPT	**219-221**
Installation Guidelines for Liquid Drain Traps						**222-223**



LIQUID DRAINERS

Watson McDaniel

WLDE/WLDES Series

Float Type Liquid Drain Trap

Model	WLDE	WLDES
Sizes	1 1/2", 2", 2 1/2"	2 1/2"
Connections	NPT	NPT, SW, Flanged
Body Material	Ductile Iron	Cast Steel
PMO Max. Operating Pressure	200 PSIG	300 PSIG
TMO Max. Operating Temperature	450ºF	450ºF
PMA Max. Allowable Pressure	300 PSIG up to 450˚F	300 PSIG up to 750˚F
TMA Max. Allowable Temperature	450ºF @ 300 PSIG	750ºF @ 300 PSIG

TYPICAL APPLICATIONS

The **WLDE/WLDES Series** high-capacity condensate drainers meet the flow requirements that are typically found in heavy industrial process applications for air and other gases.

HOW IT WORKS

This liquid drainer has a float-operated valve that gives the trap a modulating flow characteristic. The amount of liquid flowing into the drainer is sensed by the float which positions the main valve to discharge the liquid at the same rate as it is received.

FEATURES

- **Ductile Iron or Cast Steel body and cover**
- **All stainless steel internals for long service life**
- **High capacity liquid removal**
- **Rugged construction design for heavy industrial use**
- **In-line repairable**

SAMPLE SPECIFICATION

The liquid drain trap shall be float operated with a ductile iron or cast steel body and all stainless steel internals. The unit shall be in-line repairable and equipped with a FNPT threaded connection for the use of a balance line.

INSTALLATION

The installation should include isolation valves to facilitate maintenance and an in-line strainer. The trap must be level and upright for the float mechanism to operate. The 2" and 2 1/2" traps should not be supported by the piping alone. Trap must be sized and properly located in the system. Piping hook-up must include an equalizing line.

MAINTENANCE

Close isolation valves prior to any maintenance. All working components can be replaced with the drain trap remaining in the pipeline. Repair kits include float, valve seat & disc, and gaskets. For full maintenance details see Installation and Maintenance Manual.

MATERIALS

Body & Cover	**WLDE** - Ductile Iron **WLDES** - Cast Steel
Cover Screw	Carbon Steel, Gr 5
Cover Gasket	Garlock
Valve Discs	Stainless Steel, AISI 303
Main Valve Assembly Housing	Stainless Steel, AISI 304
Valve Assembly Gasket	Garlock
Ball Float	Stainless Steel, AISI 304
All other components	Stainless Steel

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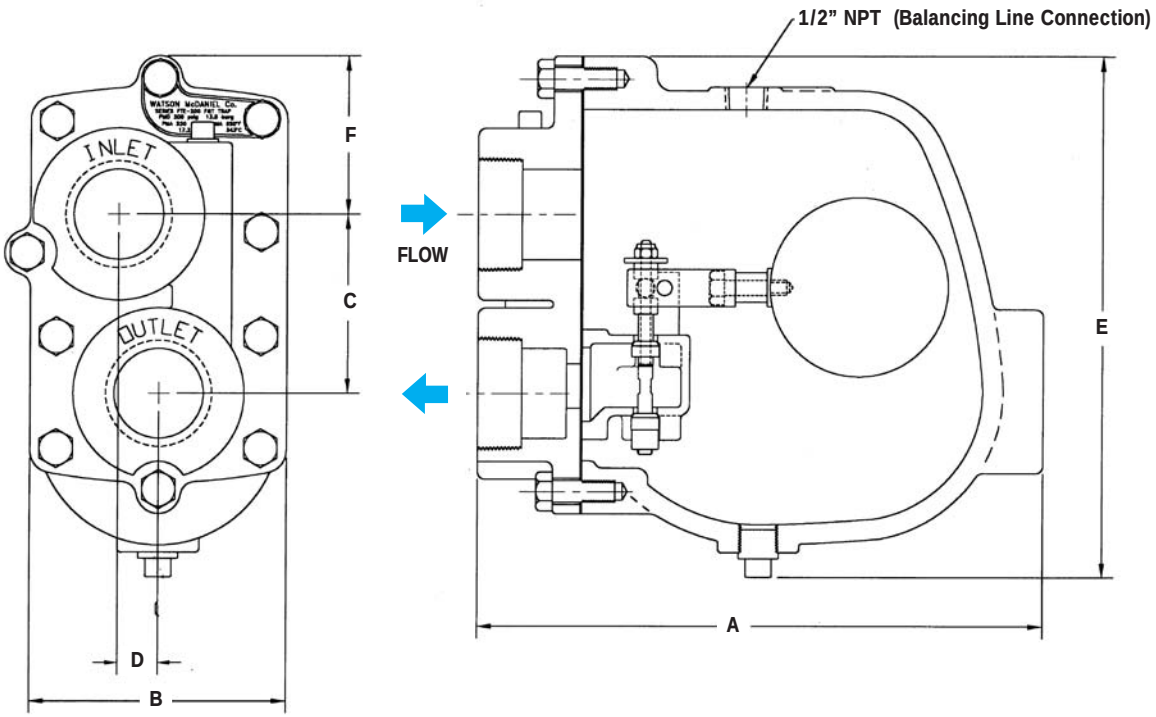
WLDE/WLDES Series

Float Type Liquid Drain Trap



DIMENSIONS & WEIGHTS – *inches / pounds*

Model-PMO (PSIG)	Size	A	B	C	D	E	F	Weight (lbs)
WLDE-20	2"	12 1/8	5 11/16	4 1/2	1/2	11 1/8	3 15/16	44
WLDE-50	2"	16	8 7/16	7 5/16	1 7/16	15 1/8	3 1/8	91
WLDE-50	2 1/2"	15 1/2	8 7/16	7 5/16	1 7/16	15 1/8	3 1/8	91
WLDE-125	2 1/2"	15 1/2	8 7/16	7 5/16	1 7/16	15 1/8	3 1/8	92
WLDE-200	1 1/2"	9 1/8	4 5/16	3	11/16	8 13/16	2 1/8	23
WLDE-200	2"	12 1/8	5 11/16	4 1/2	1/2	11 1/8	3 15/16	50
WLDE-200	2 1/2"	15 1/2	8 7/16	7 5/16	1 7/16	15 1/8	3 1/8	92
WLDES-300	2 1/2"	15 1/2	8 7/16	7 5/16	1 7/16	15 1/8	3 1/8	92

HOW TO SIZE/ORDER

Determine differential pressure and capacity (lbs/hr) required. Locate differential pressure on capacity chart; move down column to capacity required. Make sure to select the correct model based on the required inlet pressure. Example:

Application: 80,000 lbs/hr at 100 PSIG working pressure and 5 PSI differential pressure

Size/Model: 2 1/2" **WLDE-125** @ 87,294 lbs/hr

CAPACITIES – *Cold Water (lbs/hr)*

Model-PMO (PSIG)	Size	Orifice Size	Differential Pressure (PSI) 1/4	1/2	1	2	5	10	15	20	40	50	75	100	125	150	200
WLDE-20	2"	.937"	3929	5556	7858	11113	17571	24849	30433	35141							
WLDE-50	2"	2.125"	12248	18153	25312	37751	62218	90068	106565	123365	161302	176522					
WLDE-50	2 1/2"	2.125"	19520	27605	39039	55209	87294	123452	151197	174588	246904	276047					
WLDE-125	2 1/2"	2.125"	19520	27605	39039	55209	87294	123452	151197	174588	246904	276047	338088	390390	436469		
WLDE-200	1 1/2"	.375"	1051	1486	2102	2973	4700	6647	8141	9401	13295	14864	18205	21021	23502	25745	29728
WLDE-200	2"	.75"	3403	4813	6807	9626	15220	21525	26363	30441	43050	48131	58949	68068	76102	83366	96263
WLDE-200	2 1/2"	1.5"	11100	15713	22200	31427	49690	70273	86066	99381	140546	157135	192450	222200	248452	272165	314269
WLDES-300	2 1/2"	1.5"	11100	15713	22200	31427	49690	70273	86066	99381	140546	157135	192450	222200	248452	272165	314269

Note: Capacity for 250 PSI Differential Pressure = 365,232 lbs/hr; for 300 PSI Differential Pressure = 427,024 lbs/hr (for WLDES-300 only).

WLD600/601 Series

Float Type Liquid Drain Trap

Model	**WLD600 / WLD601**
Sizes	**3/4", 1", 1 1/2", 2", 3", 4"**
Connections	**NPT, SW, Flanged**
Body Material WLD600	**Carbon Steel**
Body Material WLD601	**316 Stainless Steel**
PMO Max. Operating Pressure	**450 PSIG**
TMO Max. Operating Temperature	**750°F**
PMA Max. Allowable Pressure	***990 PSIG @ 100°F**
TMA Max. Allowable Temperature	***750°F @ 670 PSIG**

**** 3/4"- 2" only.***

Note: For dimensions and capacities of 3" & 4" liquid drain traps, refer to model FT600 in the Steam Trap section.

TYPICAL APPLICATIONS

The **WLD600/WLD601 Series** are used in applications where immediate and continuous discharge of large amounts of liquid is required. Typically used in heavy industrial process applications for draining condensate from air or other gases.

HOW IT WORKS

This liquid drainer has a float-operated valve that gives the trap a modulating flow characteristic. The amount of liquid flowing into the drainer is sensed by the float which positions the main valve to discharge the liquid at the same rate as it is received.

FEATURES

- **All stainless steel internals for long service life**
- **Body & cover available in Carbon Steel or 316 SS**
- **Rugged construction designed for heavy industrial applications**
- **In-line repairable**

SAMPLE SPECIFICATION

The liquid drain trap shall be float operated with a cast steel body (or stainless steel body for WLD601) and all stainless steel internals. The unit shall be in-line repairable and equipped with a FNPT threaded connection for the use of a balance line.

INSTALLATION

The installation should include isolation valves to facilitate maintenance and an in-line strainer. The trap must be level and upright for the float mechanism to operate. The 2"– 4" traps should not be supported by the piping alone. Trap must be sized and properly located in the system. Piping hook-up must include an equalizing line.

MAINTENANCE

Close isolation valves prior to any maintenance. All working components can be replaced with the drain trap remaining in the pipeline. Repair kits include float, valve seat & disc and gaskets. For full maintenance details see Installation and Maintenance Manual.

OPTIONS

316 SS Body & Cover: use Model WLD601.

MATERIALS

Body & Cover WLD600	Cast Steel, ASTM A-216 WCB
Body & Cover WLD601	Cast 316 SS
Cover Studs	Steel, SA 193, Gr B7
Cover Nuts	Steel, SA 194, Gr 2H
Cover Gasket	Stainless Steel Reinforced Grafoil
Valve Assembly	Stainless Steel, AISI 431
Gasket, Valve Assembly	Stainless Steel Reinforced Grafoil
Pivot Assembly	Stainless Steel, 17-4 PH
Mounting Screws	Stainless Steel Hex Head, 18-8
Float	Stainless Steel, ASTM 240 TY 304

HOW TO SIZE/ORDER

Determine differential pressure and capacity (lbs/hr) required. Locate differential pressure on capacity chart; move down column to capacity required. Make sure to select the correct model based on the required inlet pressure. Example:

Application: 2,000 lbs/hr at 325 PSIG working pressure and 250 PSI differential pressure

Size/Model: 1" **WLD600-450** @ 2,060 lbs/hr

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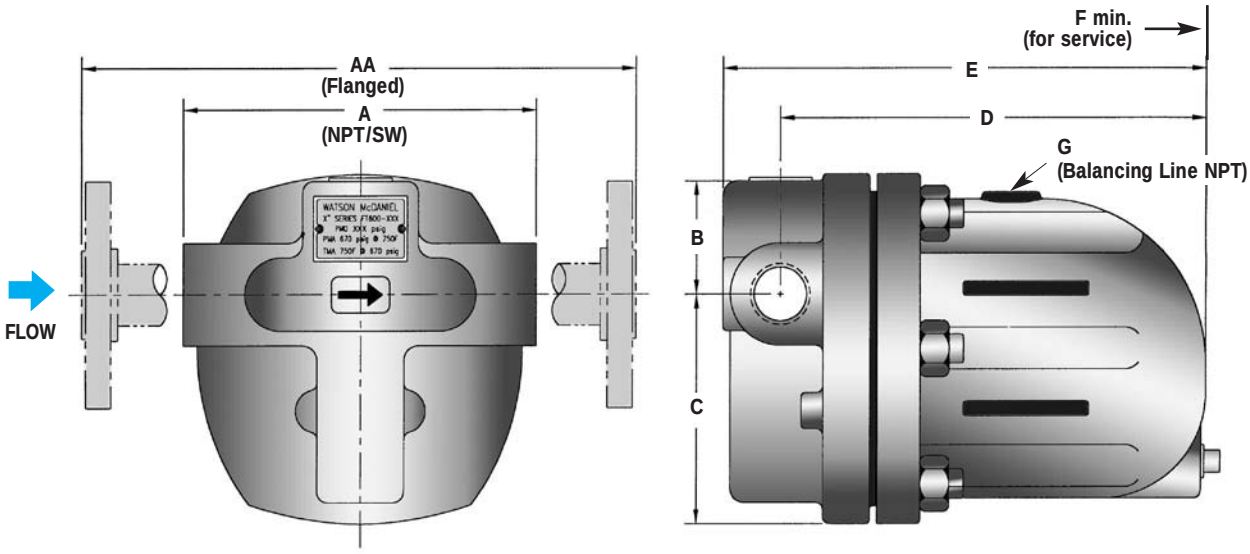
WLD600/601 Series

Float Type Liquid Drain Trap



DIMENSIONS & WEIGHTS – *inches / pounds*

Size	A	AA	B	C	D	E	F	G *	Weight (lbs) NPT/SW	Weight (lbs) FLG
3/4"	6 1/8	10 1/8	2 1/8	3 7/16	7 7/16	8 7/16	5 13/16	3/8	25	31
1"	6 1/2	10 7/16	2 1/2	5 1/2	8 7/16	9 1/2	6 5/16	3/8	31	36
1 1/2"	9 13/16	14	3 7/16	9	10 7/16	11 15/16	7 13/16	1/2	82	91
2"	11 13/16	16	3 1/8	7 7/16	11 1/8	13 5/16	6 13/16	1/2	93	107

* Balancing Port available with 1/2" flanged connection. Specify on order.

CAPACITIES – *Cold Water (lbs/hr)*

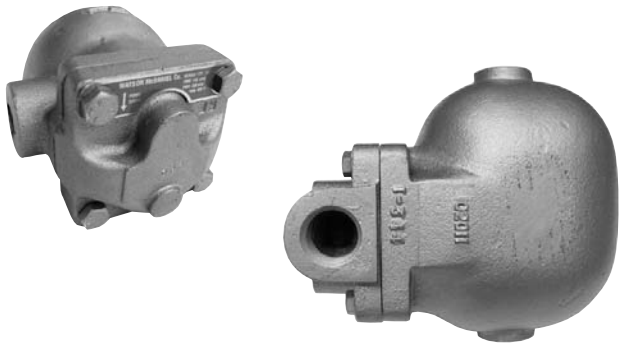
PMO (PSIG)	Size (in.)	Orifice (in.)	Differential Pressure (PSI) 2	5	10	20	30	40	50	65	70	80	100	145	200	250	300	350	450
65	3/4"	.156	340	520	730	1010	1220	1440	1560	1770									
65	1"	.276	1390	2140	2970	4130	5000	5730	6370	7210									
65	1 1/2"	.689	4160	6430	8920	12380	15000	17190	19110	21630									
65	2"	1.122	14730	22720	31540	43790	53060	60790	67570	76500									
145	3/4"	.126	210	320	450	620	760	870	960	1090	1130	1200	1340	1590					
145	1"	.205	690	1070	1490	2060	2500	2870	3190	3610	3740	3980	4420	5270					
145	1 1/2"	.591	2360	3630	5050	7010	8490	9730	10810	12240	12670	13500	15000	17890					
145	2"	.807	5840	9010	12510	17370	21040	24110	26800	30340	31420	33470	37200	44360					
200	3/4"	.106	170	260	360	500	600	690	770	870	900	960	1060	1270	1480				
200	1"	.185	450	690	960	1330	1620	1850	2060	2330	2410	2570	2860	3410	3970				
200	1 1/2"	.531	1650	2550	3540	4910	5950	6820	7580	8580	8890	9470	10520	12540	14610				
200	2"	.657	2890	4460	6190	8590	10410	11930	13250	15010	15540	16560	18400	21940	25540				
300	3/4"	.079	80	130	180	250	300	340	380	430	450	480	530	630	730	820	890		
300	1"	.156	340	520	730	1010	1220	1400	1560	1770	1830	1950	2160	2580	3010	3340	3640		
300	1 1/2"	.531	1650	2550	3540	4910	5950	6820	7580	8580	8890	9470	10520	12540	14610	16230	17700		
300	2"	.657	2890	4460	6190	8590	10410	11930	13250	15010	15540	16560	18400	21940	25540	28930	30950		
450	3/4"	.063	50	70	100	140	160	190	210	240	250	260	290	350	400	450	490	530	590
450	1"	.126	210	320	450	620	760	870	960	1090	1130	1200	1340	1590	1860	2060	2250	2420	2720
450	1 1/2"	.531	1650	2550	3540	4910	5950	6820	7580	8580	8890	9470	10520	12540	14610	16230	17700	19040	21440
450	2"	.657	2890	4460	6190	8590	10410	11930	13250	15010	15540	16560	18400	21940	25540	28390	30950	33290	37490

LIQUID DRAINERS

WLD1400 Series

Float Type Liquid Drain Trap

Model	**WLD1400**
Sizes	**1/2", 3/4", 1", 1 1/2", 2"**
Connections	**NPT**
Body Material	**Ductile Iron**
PMO Max. Operating Pressure	**300 PSIG**
TMO Max. Operating Temperature	**450ºF**
PMA Max. Allowable Pressure	**300 PSIG up to 450ºF**
TMA Max. Allowable Temperature	**450ºF @ 300 PSIG**



TYPICAL APPLICATIONS

The **WLD1400 Series** is used on air and gas applications as drip traps on piping runs as well as drainage for systems and various process vessels that have moderate condensate loads.

HOW IT WORKS

This liquid drainer has a float-operated valve that gives the trap a modulating flow characteristic. The amount of liquid flowing into the drainer is sensed by the float which positions the main valve to discharge the liquid at the same rate as it is received.

FEATURES

- **All stainless steel internals**
- **Hardened valve seat for longer service life**
- **Ductile Iron body**
- **In-line repairable**

SAMPLE SPECIFICATION

The liquid drain trap shall be float operated with a ductile iron body, all stainless steel internals and a hardened valve seat. The unit shall be in-line repairable and equipped with a FNPT threaded connection for the use of a balance line.

INSTALLATION

The installation should include isolation valves to facilitate maintenance and an in-line strainer. The trap must be level and upright for the float mechanism to operate. Trap must be sized and properly located in the system. Piping hook-up must include an equalizing line for drainers 1" and larger.

MAINTENANCE

Close isolation valves prior to any maintenance. All working components can be replaced with the drain trap remaining in the pipeline. Repair kits include float, valve seat & disc, and gaskets. For full maintenance details see Installation and Maintenance Manual.

HOW TO SIZE/ORDER

Determine differential pressure and capacity (lbs/hr) required. Locate differential pressure on capacity chart; move down column to capacity required. Make sure to select the correct model based on the required inlet pressure. Example:

Application: 3,500 lbs/hr at 15 PSIG working pressure and 2 PSI differential pressure

Size/Model: 1 1/2" **WLD1416-065** @ 4,300 lbs/hr

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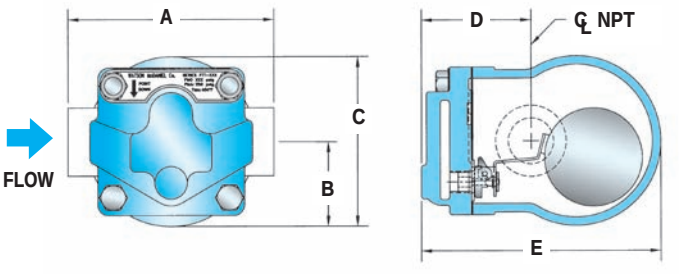
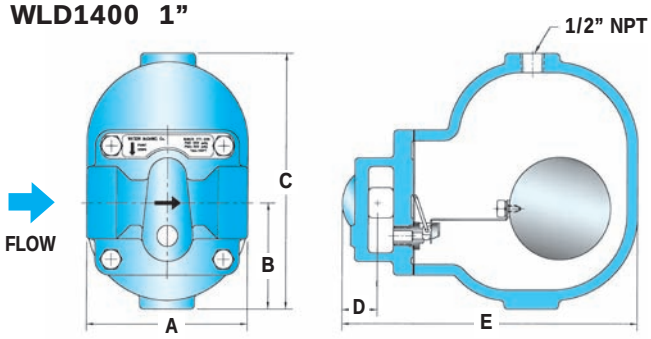
WLD1400 Series

Float Type Liquid Drain Trap

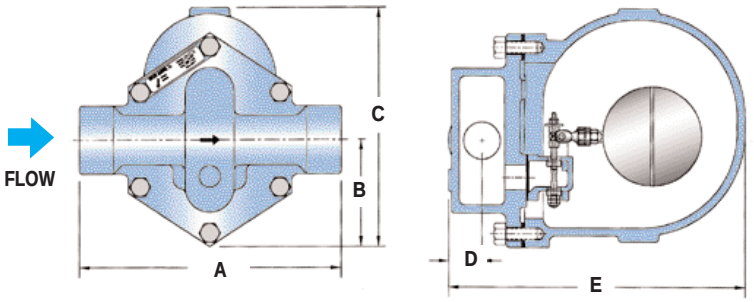
WLD1400 1/2" & 3/4"



WLD1400 1"



WLD1400 1½" & 2"



DIMENSIONS & WEIGHTS – *inches/pounds*

Size	A	B	C	D	E	Weight
1/2", 3/4"	4.8	1.9	3.9	2.5	5.5	6
1"	4.8	3.1	7.5	1.1	8.8	16
1½"	10.6	4.3	9.6	1.4	12	40
2"	11.9	4.3	9.6	1.4	12	40

MATERIALS

Body & Cover	Ductile Iron
Gasket	Garlock 3400
Cover Screws	Stainless Steel, Gr 5
Float	Stainless Steel, AISI 304
Internals	Stainless Steel, 300 Series
Valve Seat	Stainless Steel, 17-4 PH
Valve Disc	Stainless Steel, AISI 420F

CAPACITIES – *Cold Water (lbs/hr)*

Model	Size	PMO (PSIG)	Orifice Size	Differential Pressure (PSI) 1	2	5	10	15	20	30	40	50	65	75	100	125	145	200	225	300
WLD1412-065	1/2"	65	.157"	250	340	530	730	880	1010	1230	1410	1560	1770							
WLD1413-065	3/4"	65	.157"	250	340	530	730	880	1010	1230	1410	1560	1770							
WLD1414-065	1"	65	.273"	980	1360	2090	2910	3520	4040	4890	5600	6220	7050							
WLD1416-065	1½"	65	.157"	3125	4300	6600	9350	11225	13250	16350	18700	20950	23500							
WLD1417-065	2"	65	.273"	10600	14900	23300	31500	38150	44750	53600	61850	69200	76375							
WLD1412-145	1/2"	145	.100"	110	150	230	320	380	440	530	610	680	770	940	1050	1130	1200			
WLD1413-145	3/4"	145	.100"	110	150	230	320	380	440	530	610	680	770	940	1050	1130	1200			
WLD1414-145	1"	145	.202"	490	670	1040	1440	1750	2000	2430	2780	3090	3500	4290	4760	5110	5350			
WLD1416-145	1½"	145	.100"	1575	2175	3400	4650	5525	6325	7750	8950	9925	11000	12300	13975	15300	16500			
WLD1417-145	2"	145	.202"	3875	5450	8575	11500	12350	13200	20950	24050	27175	31050	34150	38500	42225	45950			
WLD1412-225	1/2"	225	.079"	60	80	130	180	220	250	300	340	380	430	530	590	630	690	740	780	
WLD1413-225	3/4"	225	.079"	60	80	130	180	220	250	300	340	380	430	530	590	630	690	740	780	
WLD1414-225	1"	225	.184"	320	450	690	960	1160	1330	1610	1850	2050	2330	2850	3170	3400	3710	3960	4100	
WLD1416-250	1½"	250	.079"	1000	1375	2150	3050	3600	4100	5025	5775	6400	7300	8050	8900	9750	10550	12450	13150	
WLD1417-250	2"	250	.184"	1900	2675	4250	5850	7000	8225	10050	11595	12950	15125	16700	18300	20200	22100	25850	27100	
WLD1414-300	1"	300	.153"	230	320	500	690	840	960	1170	1340	1480	1680	2060	2290	2460	2680	2860	3020	3460

WLD1500 Series

Inverted Bucket Liquid Drain Trap

Model	**WLD1501, WLD1502, WLD1504, WLD1521, WLD1522, WLD1524**
Sizes	**3/4", 1"**
Connections	**NPT**
Body Material	**Cast Iron**
PMO Max. Operating Pressure	**200 PSIG**
TMO Max. Operating Temperature	**450ºF**
PMA Max. Allowable Pressure	**250 PSIG up to 450ºF**

Note:
Trap should be ordered with an internal check valve or a separate check valve needs to be placed in-line during installation on the discharge side of the trap.

WLD1521/1522/1524 with Strainer

TYPICAL APPLICATIONS

The **WLD1500 Series** Inverted Bucket Liquid Drain Traps are recommended for the removal of oil and liquids from compressed air systems.

HOW IT WORKS

When there is condensate in the system, the inverted bucket inside the liquid drain trap sits on the bottom of the unit due to its weight. This allows condensate to enter the trap and to be discharged through the seat orifice located at the top. When air enters the trap, the bucket floats to the surface and closes off the discharge valve, containing the air in the system. Eventually, air is bled off through a small port in the top of the bucket and the bucket sinks, repeating the cycle.

FEATURES

- **Hardened stainless steel valves and seat**
- **Only two moving parts**
- **Scrubber wire in air vent of bucket**
- **Discharge orifice at top, allowing for superior oil removal**
- **In-line repairable**

SAMPLE SPECIFICATION

Drain trap shall be an inverted bucket trap design with cast iron body, all stainless steel internals, hardened valve & seat, plus a scrubber wire. The unit shall be in-line repairable.

INSTALLATION

Installation should include isolation valves for maintenance purposes and an in-line strainer. Trap must be installed in upright position to function properly. It may be necessary to prime the bucket trap by filling it with water through the priming port, prior to startup.

MAINTENANCE

Close isolation valves prior to any maintenance. All working components can be replaced with the drain trap remaining in the pipeline. Repair kits include lever & seat assembly, strainer screen and gaskets. For full maintenance details see Installation and Maintenance Manual.

MATERIALS

Body & Cover	Cast Iron, ASTM A-278 Class 30
Nuts & Bolts	High-Tensile Steel
Gasket	Non-Asbestos Fiber
Bucket	Stainless Steel
Scrubber	Stainless Steel
Lever & Seat Assembly	Stainless Steel
Valve & Seat	Hardened Stainless Steel
Integral Strainer*	Stainless Steel

** WLD1521, WLD1522 & WLD1524 models only.*

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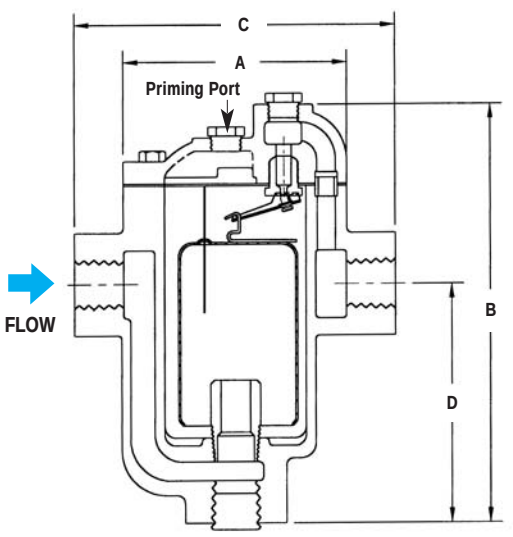
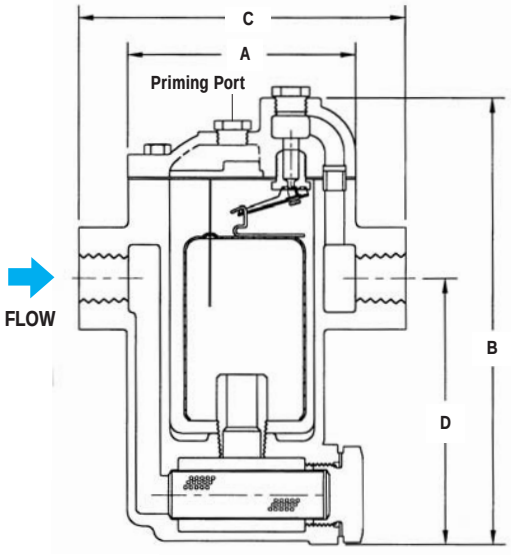
WLD1500 Series

Inverted Bucket Liquid Drain Trap



WLD1501/1502/1504



WLD1521/1522/1524
with Strainer

DIMENSIONS & WEIGHTS – *inches / pounds*

Model	Size	A	B	C	D	Weight
WLD1501	3/4"	3 13/16	5 7/16	5	2 13/16	5
WLD1502	3/4"	3 13/16	6 15/16	5	4 5/16	6
WLD1504	1"	7	11 13/16	7 13/16	7	27
WLD1521	3/4"	3 13/16	6 1/8	5	3 7/16	5.5
WLD1522	3/4"	3 13/16	7 1/8	5	4 7/16	6
WLD1524	1"	7	12 7/16	7 13/16	7 7/16	30

CAPACITIES – *Cold Water (lbs/hr)*

Model	PMO (PSIG)	Size	Differential Pressure (PSI) 2	5	10	25	50	80	100	125	150	180	200
WLD1501 WLD1521	150	3/4"	145	220	325	510	720	900	1010	1130	1215		
WLD1502 WLD1522	200	3/4"	170	260	380	595	835	1045	1175	1315	1410	1550	1645
WLD1504 WLD1524	200	1"	500	760	1105	1740	2460	3065	3450	3865	4140	4555	4835

HOW TO SIZE/ORDER

Determine differential pressure and capacity (lbs/hr) required. Locate differential pressure on capacity chart; move down column to capacity required. Make sure to select the correct model based on the required inlet pressure. Example:

Application: 200 lbs/hr at 30 PSIG working pressure and 5 PSI differential pressure

Size/Model: 3/4" **WLD1521-150** @ 220 lbs/hr (with strainer)

WLD1703S

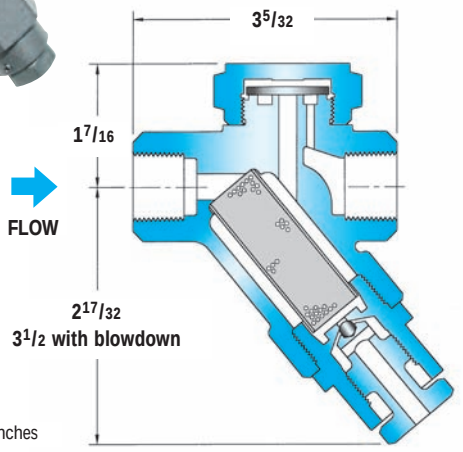
Thermodynamic Drain Trap

Model	**WLD1703S**
Sizes	**1/2"**
Connections	**NPT**
Body Material	**Stainless Steel**
Options	**Blowdown Valve**
PMO Max. Operating Pressure	**250 PSIG**
TMO Max. Operating Temperature	**750ºF**
PMA Max. Allowable Pressure	**915 PSIG up to 250ºF**
TMA Max. Allowable Temperature	**610ºF @ 750 PSIG**

WLD1703SB with Strainer & Blowdown Valve

WLD1703S with Strainer

WLD1703SB with Strainer & Blowdown Valve



TYPICAL APPLICATION

The **WLD1703S** is used on air and gas applications as drip traps on system mains and other piping runs. These drain traps are ideal for outdoor applications where units are subject to freezing.

HOW IT WORKS

The thermodynamic liquid drain trap has a cyclic on/off operation with a disc that is pushed open when condensate is present and pulled closed when the gas tries to escape.

FEATURES

- **Rugged, stainless steel body and hardened seat**
- **Handles a wide range of pressures up to 250 PSIG**
- **Works in any position (horizontal preferable)**
- **Integral strainer with blowdown option**
- **Three-holed balanced discharge**
- **Freezeproof in vertical flow-down position**

SAMPLE SPECIFICATION

Drain Trap shall be thermodynamic disc type with an all stainless steel construction. Body shall have a built-in strainer with optional blowdown valve. Integral seat design and disc to be hardened for long service life. Unit shall be capable of installation in any orientation and self-draining when mounted vertically with flow direction downwards.

INSTALLATION

Drain Trap can be installed in any position; however, horizontal is preferred. Installation should include isolation valves for maintenance purposes.

MAINTENANCE

Dirt is the most common cause of premature failure. The strainer should be periodically cleaned. For full maintenance details see Installation and Maintenance Manual.

OPTIONS

Blowdown valve for easy maintenance.

MATERIALS

Body	Stainless Steel, AISI 420F
Disc	Stainless Steel, AISI 420
Cap	Stainless Steel, AISI 416
Strainer Screen	Stainless Steel, AISI 304
Blowdown Valve*	Stainless Steel, AISI 303

** WLD1703SB model only.*

HOW TO SIZE/ORDER

Select working pressure in capacity chart; read number underneath to determine capacity (lbs/hr). Example:

Application: 500 lbs/hr at 80 PSIG inlet pressure
Size/Model: 1/2" **WLD1703S** @ 530 lbs/hr

CAPACITIES – *Cold Water (lbs/hr)*

Model	Size	Inlet Pressure (PSIG) 2	5	10	25	50	80	100	125	150	180	200	250
WLD1703S	1/2"	90	130	190	300	425	530	600	670	715	790	835	955
WLD1703SB	1/2"												

Note: *1) Maximum back pressure not to exceed 80% of inlet pressure.*
2) To determine gallons per minute of flow, divide values in chart by 500. ***Example:*** *600 lbs/hr = 600 ÷ 500 = 1.2 GPM*

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WLD1800/1800R Series

Guided Float Type Liquid Drain Trap

Model	**WLD1800, WLD1800R**
Sizes	**1/2", 3/4"**
Connections	**NPT**
Body Material	**Stainless Steel**
PMO Max. Operating Pressure	**400 PSIG**
TMO Max. Operating Temperature	**500˚F**
PMA Max. Allowable Pressure	**400 PSIG @ 500˚F**
TMA Max. Allowable Temperature	**500˚F @ 400 PSIG**

WLD1800
(Non-Repairable)

WLD1800R
(Repairable)

TYPICAL APPLICATIONS

The **WLD1800/1800R Series** are used on industrial air and gas applications for drainage of liquid from systems.

HOW IT WORKS

This liquid drainer has a float-operated valve that gives the trap a modulating flow characteristic. The amount of liquid flowing into the drainer is sensed by the float which positions the main valve to discharge the liquid at the same rate as it is received.

FEATURES

- **Stainless steel body**
- **All stainless steel internals for longer service life**
- **Guided float ensures proper valve seating on every cycle**
- **Repairable unit available (WLD1800R)**

SAMPLE SPECIFICATION

The liquid drain trap shall have a guided-float operation with a tamper proof seal welded stainless steel body and all stainless steel internals. The unit shall be available with an in-line repairable version. All units to be equipped with FNPT threaded end connections.

INSTALLATION

The installation should include isolation valves to facilitate maintenance and an in-line strainer. The trap must be level and upright for the float mechanism to operate. Trap must be sized and properly located in the system.

MAINTENANCE

Close isolation valves prior to any maintenance. The WLD1800 is non-repairable unit. With the WLD1800R all working components can be replaced. Repair kits include float, lever & seat assembly, and gaskets. For full maintenance details see Installation and Maintenance Manual.

MATERIALS

Body	Stainless Steel, AISI 304
Inlet & Outlet Fittings	Stainless Steel, AISI 304
Float Assembly	Stainless Steel, AISI 304
Valve & Lever Assembly	Stainless Steel, AISI 303
Seat	Hardened Stainless Steel
*Gasket (Repairable only)	Grafoil
Washer, Seat	302 Stainless Steel
*Bolt, Hex, HD	Stainless Steel, AISI 316
*Nut, Jam	Stainless Steel, 18-8

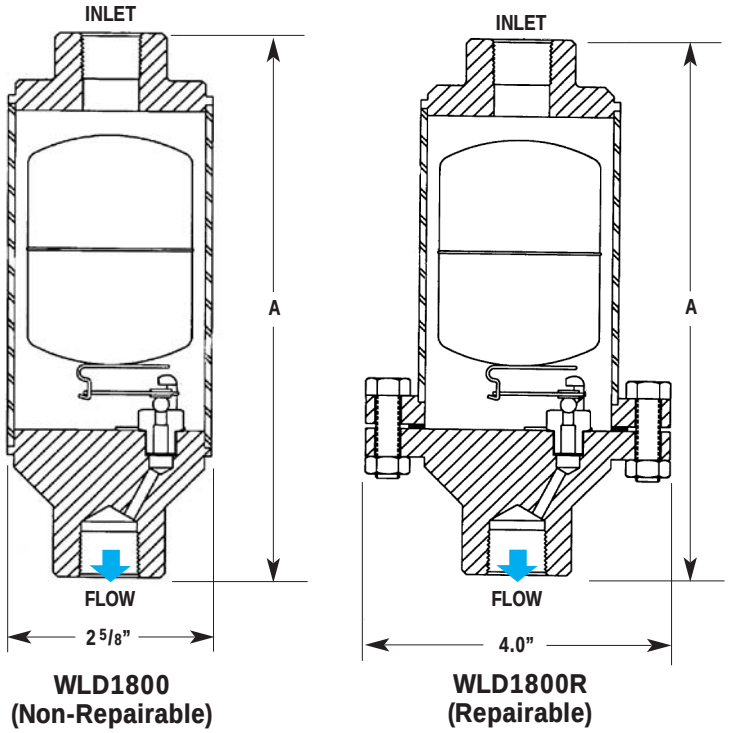
** WLD1800R repairable models only.*

WLD1800/1800R Series

Guided Float Type Liquid Drain Trap

DIMENSIONS – *inches / pounds*

Model	Orifice Size	Size (Inlet x Outlet)	Height A	Weight (lbs)
WLD1811	.078"	3/4" x 1/2"	7.5	4
WLD1811R			7.9	5
WLD1812		3/4" x 3/4"	7.5	4
WLD1812R			7.9	5
WLD1813		1/2" x 1/2"	7.5	4
WLD1813R			7.9	5
WLD1821	.101"	3/4" x 1/2"	7.5	4
WLD1821R			7.9	5
WLD1822		3/4" x 3/4"	7.5	4
WLD1822R			7.9	5
WLD1823		1/2" x 1/2"	7.5	4
WLD1823R			7.9	5
WLD1831	.125"	3/4" x 1/2"	7.5	4
WLD1831R			7.9	5
WLD1832		3/4" x 3/4"	7.5	4
WLD1832R			7.9	5
WLD1833		1/2" x 1/2"	7.5	4
WLD1833R			7.9	5



WLD1800 (Non-Repairable)

WLD1800R (Repairable)

CAPACITIES – *Cold Water (lbs/hr)*

Series	PMO* (PSIG)	Orifice Size	Differential Pressure (PSI) 1	2	5	10	15	20	30	50	100	150	175	200	250	275	300	350	400
WLD1810	400	.078"	60	80	120	130	180	260	315	400	570	700	750	800	900	940	1050	1050	1120
WLD1820	255	.101"	90	120	175	195	275	385	470	610	860	1050	1125	1200	1350	1425			
WLD1830	175	.125"	160	230	325	365	510	730	790	1150	1630	2000	2150						

* PMO based on a liquid with a specific gravity of 1.0. Consult factory for the PMO of a liquid with specific gravity less than 1.0.

CAPACITY CORRECTION FACTORS

Specific Gravity	1	.98	.96	.94	.92	.90	.88	.86	.84	.82	.80	.75	.70	.65	.60	.55	.50
Correction Factor	1	.99	.98	.97	.959	.949	.938	.927	.917	.906	.894	.866	.837	.806	.775	.742	.707

Note: *To obtain capacity with a liquid other than water, multiply water capacity by correction factor.*

HOW TO SIZE/ORDER

Determine differential pressure and capacity (lbs/hr) required. Locate differential pressure on capacity chart; move down column to capacity required. Make sure to select the correct model based on the required inlet pressure. Example:

Application: 1,000 lbs/hr at 250 PSIG working pressure and 200 PSI differential pressure

Size/Model: 3/4" x 3/4" **WLD1822** @ 1,200 lbs/hr (non-repairable) **or** 3/4" x 3/4" **WLD1822R** @ 1,200 lbs/hr (repairable)

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WLD1900 Series

Float Type Liquid Drain Trap

Model	**WLD1900**
Sizes	**3/4", 1", 1¼", 1½", 2"**
Connections	**NPT**
Body Material	**Cast Iron**
PMO Max. Operating Pressure	**250 PSIG**
TMO Max. Operating Temperature	**450ºF**
PMA Max. Allowable Pressure	**250 PSIG up to 450ºF**
TMA Max. Allowable Temperature	**450ºF @ 250 PSIG**

WLD1900
3/4" & 1"

WLD1900
2"

WLD1900
1¼" & 1½"

TYPICAL APPLICATIONS

The **WLD1900 Series** is used in applications where immediate and continuous discharge of liquid is required. Typically used in process applications for draining condensate from air or other gases.

HOW IT WORKS

This liquid drainer has a float-operated valve that gives the trap a modulating flow characteristic. The amount of liquid flowing into the drainer is sensed by the float which positions the main valve to discharge the liquid at the same rate as it is received.

FEATURES

- **All stainless steel internals**
- **Hardened valve seat for longer service life**
- **Cast Iron body**
- **In-line repairable**

SAMPLE SPECIFICATION

The liquid drain trap shall be float operated with a cast iron body, all stainless steel internals and a hardened valve seat. The unit shall be in-line repairable and equipped with a FNPT threaded connection for the use of a balance line.

INSTALLATION

The installation should include isolation valves to facilitate maintenance and an in-line strainer. The trap must be level and upright for the float mechanism to operate. Trap must be sized and properly located in the system.

MAINTENANCE

Close isolation valves prior to any maintenance. All working components can be replaced with the drain trap remaining in the pipeline. Repair kits include float, valve seat & disc, and gaskets. For full maintenance details see Installation and Maintenance Manual.

MATERIALS

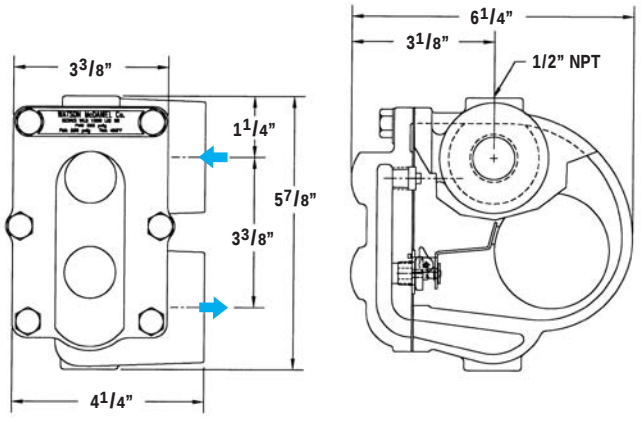
Body	Cast Iron
Cover	Cast Iron
Gasket	Garlock 3400
Cover Screws	Stainless Steel, Gr 5
Float	Stainless Steel, AISI 304
Internals	Stainless Steel, 300 Series
Valve Seat	Stainless Steel, 17-4 PH
Valve Disc	Stainless Steel, AISI 420F

WLD1900 Series

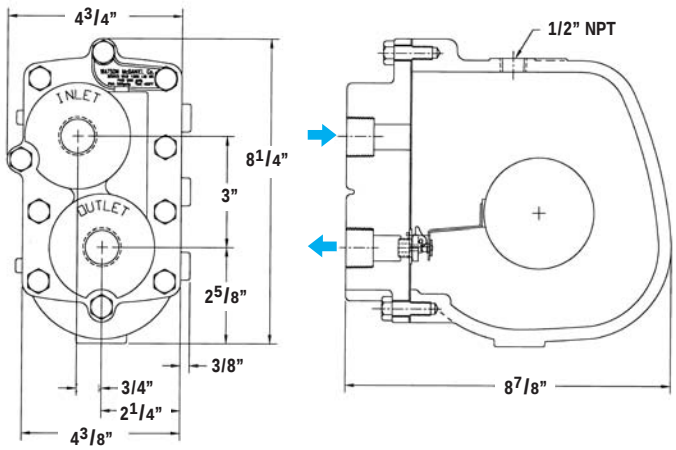
Float Type Liquid Drain Trap

DIMENSIONS – *inches/pounds*

Drawing	Model	Size	PMO (PSIG)	Weight (lbs)
A	WLD1913-015	3/4"	15	9
A	WLD1914-015	1"	15	9
A	WLD1915-015	1 1/4"	15	9
C	WLD1916-015	1 1/2"	15	21
D	WLD1917-015	2"	15	53
A	WLD1913-030	3/4"	30	9
A	WLD1914-030	1"	30	9
A	WLD1915-030	1 1/4"	30	9
C	WLD1916-030	1 1/2"	30	21
D	WLD1917-030	2"	30	53
A	WLD1913-090	3/4"	90	9
A	WLD1914-090	1"	90	9
C	WLD1915-090	1 1/4"	90	21
C	WLD1916-090	1 1/2"	90	21
D	WLD1917-090	2"	90	53
A	WLD1913-150	3/4"	150	9
A	WLD1914-150	1"	150	9
C	WLD1915-150	1 1/4"	150	21
C	WLD1916-150	1 1/2"	150	21
D	WLD1917-150	2"	150	53
B	WLD1913-200	3/4"	200	20
B	WLD1914-200	1"	200	20
C	WLD1915-200	1 1/4"	200	21
C	WLD1916-200	1 1/2"	200	21
D	WLD1917-200	2"	200	53
B	WLD1913-250	3/4"	250	20
B	WLD1914-250	1"	250	20
C	WLD1915-250	1 1/4"	250	21
C	WLD1916-250	1 1/2"	250	21
D	WLD1917-250	2"	250	53



DRAWING - A



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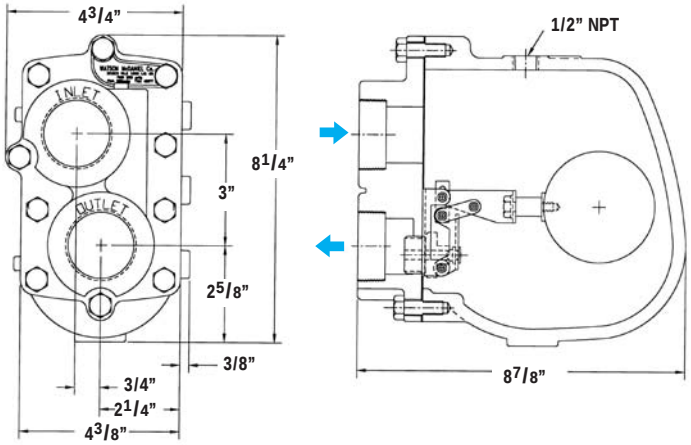

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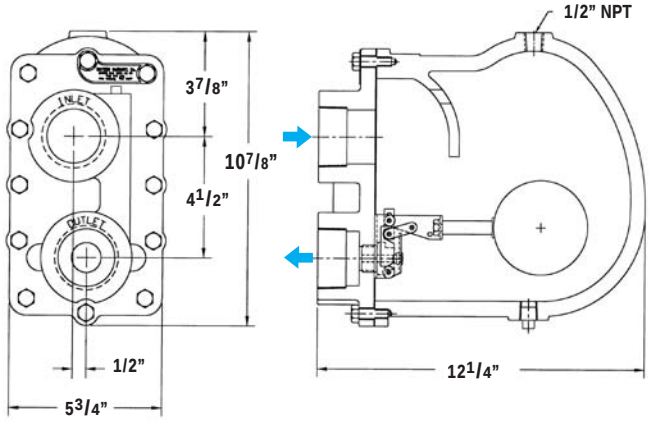

DRAWING - D

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WLD1900 Series

Float Type Liquid Drain Trap

HOW TO SIZE/ORDER

Determine differential pressure and capacity (lbs/hr) required. Locate differential pressure on capacity chart; move down column to capacity required. Make sure to select the correct model based on the required inlet pressure. Example:

Application: 3,000 lbs/hr at 30 PSIG working pressure and 5 PSI differential pressure

Size/Model: 1 1/2" **WLD1916-030**

CAPACITIES – *Cold Water (lbs/hr)*

Model	Size	PMO (PSIG)	Orifice Size	Differential Pressure (PSI) 1	2	5	10	15	20	30	40	50	75	100	125	150	175	200	225	250
WLD1913-015	3/4"	15	.250"	910	1260	1940	2690	3260												
WLD1914-015	1"	15	.250"	910	1260	1940	2690	3260												
WLD1915-015	1 1/4"	15	.312"	1130	1570	2420	3360	4070												
WLD1916-015	1 1/2"	15	.500"	2400	3330	5140	7140	8650												
WLD1917-015	2"	15	.625"	3000	4170	6430	8920	10810												
WLD1913-030	3/4"	30	.228"	830	1150	1770	2450	2970	3410	4130										
WLD1914-030	1"	30	.228"	830	1150	1770	2450	2970	3410	4130										
WLD1915-030	1 1/4"	30	.228"	830	1150	1770	2450	2970	3410	4130										
WLD1916-030	1 1/2"	30	.390"	2200	3060	4710	6540	7930	9080	11000										
WLD1917-030	2"	30	.500"	2400	3330	5140	7140	8650	9910	12000										
WLD1913-090	3/4"	90	.166"	260	360	550	770	930	1060	1290	1480	1640	1990							
WLD1914-090	1"	90	.166"	260	360	550	770	930	1060	1290	1480	1640	1990							
WLD1915-090	1 1/4"	90	.312"	1130	1570	2420	3360	4070	4660	5650	6470	7190	8710							
WLD1916-090	1 1/2"	90	.312"	1130	1570	2420	3360	4070	4660	5650	6470	7190	8710							
WLD1917-090	2"	90	.422"	1350	1870	2890	4010	4860	5570	6740	7730	8590	10400							
WLD1913-150	3/4"	150	.128"	150	210	330	450	550	630	760	870	970	1170	1340	1490	1590				
WLD1914-150	1"	150	.128"	150	210	330	450	550	630	760	870	970	1170	1340	1490	1590				
WLD1915-150	1 1/4"	150	.250"	910	1260	1940	2690	3260	3740	4530	5190	5760	6980	8000	8890	9800				
WLD1916-150	1 1/2"	150	.250"	910	1260	1940	2690	3260	3740	4530	5190	5760	6980	8000	8890	9800				
WLD1917-150	2"	150	.332"	1200	1670	2580	3580	4330	4960	6010	6890	7650	9270	10620	11810	12500				
WLD1913-200	3/4"	200	.166"	260	360	550	770	930	1060	1290	1480	1640	1990	2280	2530	2760	2970	3150		
WLD1914-200	1"	200	.166"	260	360	550	770	930	1060	1290	1480	1640	1990	2280	2530	2760	2970	3150		
WLD1915-200	1 1/4"	200	.250"	910	1260	1940	2690	3260	3740	4530	5190	5760	6980	8000	8890	9690	10420	11100		
WLD1916-200	1 1/2"	200	.250"	910	1260	1940	2690	3260	3740	4530	5190	5760	6980	8000	8890	9690	10420	11100		
WLD1917-200	2"	200	.281"	1960	2720	4200	5830	7060	8090	9800	11230	12480	15120	17320	19250	20980	22570	23800		
WLD1913-250	3/4"	250	.128"	150	210	330	450	550	630	760	870	970	1170	1340	1490	1630	1750	1860	1970	2070
WLD1914-250	1"	250	.128"	150	210	330	450	550	630	760	870	970	1170	1340	1490	1630	1750	1860	1970	2070
WLD1915-250	1 1/4"	250	.203"	600	830	1280	1770	2150	2460	2980	3420	3800	4600	5270	5860	6390	6870	7320	7740	8140
WLD1916-250	1 1/2"	250	.203"	600	830	1280	1770	2150	2460	2980	3420	3800	4600	5270	5860	6390	6870	7320	7740	8140
WLD1917-250	2"	250	.250"	910	1260	1940	2690	3260	3740	4530	5190	5760	6980	8000	8890	9690	10420	11100	11740	12340

Installation Guidelines

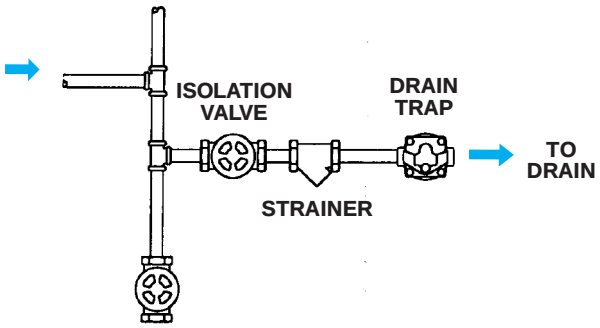
for Liquid Drain Traps

PROPER INSTALLATION OF LIQUID DRAINERS

Liquid Drain Traps are primarily used to remove condensation from air and other non-condensable gas lines. The proper liquid drain trap should be selected based on several parameters, including installation limitations, pressure conditions and the amount of liquid to be drained.

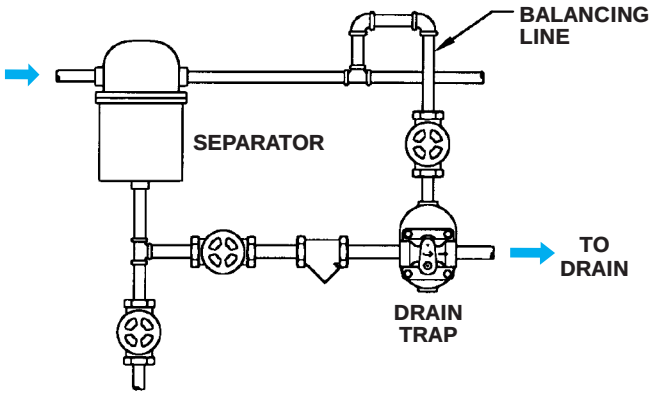
If a **Ball & Float Type Drain Trap** is selected, typically it is necessary to add a Balancing (or Equalizing) Line to allow any air or gases trapped in the drainer to escape. If the Balancing Line is not installed, these gases can prevent proper operation by air-binding the trap. Inverted Bucket Type & Disc Type Traps will self-vent eliminating the risk of air-binding and therefore do not require Balancing Lines.

Figure 1 **Draining Condensate from an Air Line Drip Pocket with a Float Type Drainer**



Due to the small amount of condensate normally found in drip leg applications, a small Ball & Float Type Liquid Drainer can be used and a Balancing Line is not required. However, a minimum pipe connection size of 3/4" is recommended for this type of application.

Figure 2 **Draining Condensate from a Separator on a Large Air Main with a Float Type Drainer**



Due to the large amount of condensate normally found in air mains or from the discharge of air compressors, a larger Ball & Float Type Liquid Drainer must be used and a Balancing Line is required.

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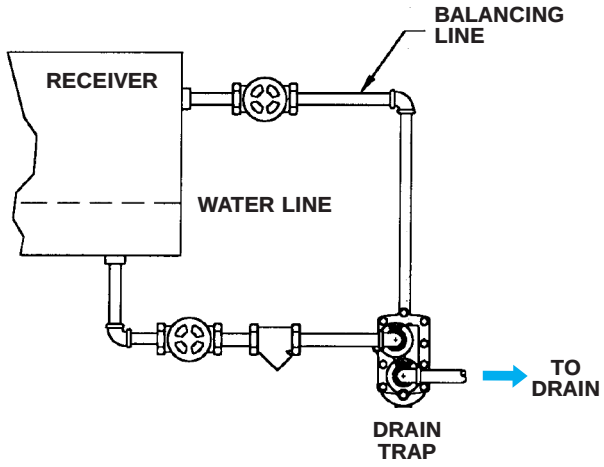
Installation Guidelines

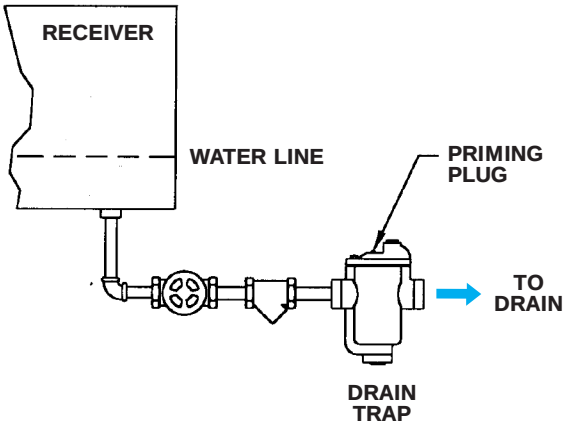
for Liquid Drain Traps *(continued)*

Figure 3 **Draining Condensate from a Receiver with a Float Type Drainer**



When draining a receiver, a large trap is typically required in order to handle the liquid load. If a Ball & Float Type Liquid Drainer is used, a Balancing Line is required. Make certain that the Balancing Line connection to the receiver is above the water line.

Figure 4 **Draining Condensate from a Receiver with an Inverted Bucket Trap**



In this example, an Inverted Bucket Type Liquid Drain Trap is used. The Inverted Bucket Trap has a small internal orifice which permits the venting of air, and therefore does not require a Balancing Line. However, it is important to make certain that the Inverted Bucket Trap is primed with liquid before operation.

Note: See installation manual for proper priming procedures.