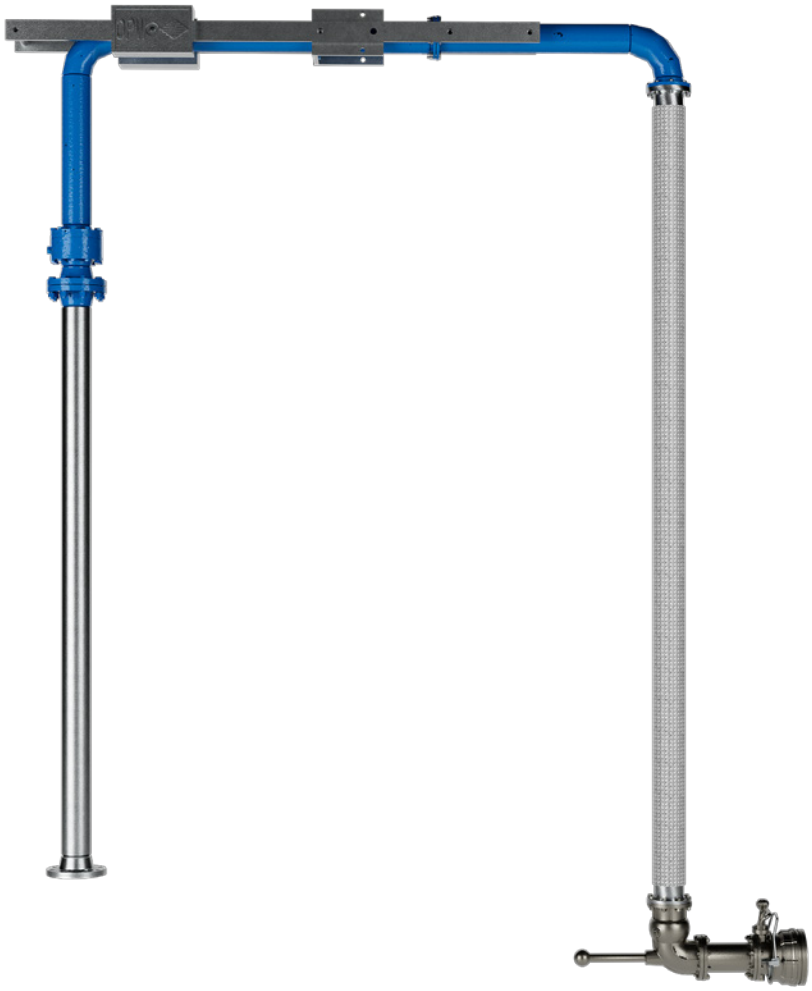
STANDARDLINE

NEW DESIGN

Counterweighted Hose (CWH) Bottom-Loading Arm

StandardLine Loading Arms by OPW Engineered Systems raise the bar in quality and performance for the industry. Get OPW's best-in-class loading systems in pre-engineered sizes, materials and feed orientations with fast delivery.

The Grandfather of our Terminal Product line, the CWH is ideal for longer reach applications or loading bays that require up to seven arms. Its simple, yet robust, design has provided decades of reliable service. Also a good choice when replacing existing Counterweighted or Shot-Bucket Loaders.



Features and Benefits:

- 8000 Series Split Flange Inlet Swivel
  - Higher Load Capabilities
  - Easier Maintenance
- 3000 Series Swivel Joints
  - Simple, Proven Design
  - Carbon Steel/Aluminum Construction
  - Fluorocarbon Seals (-20°F)
  - Wide Compatibility
- Adjustable Counterweight Balancing
  - Safe, Easy Adjustment
- Braided Stainless Steel or Rackmaster Composite Hoses
- Available with LYNX or 1004D3 Bottom-Loading Coupler
- Exclusive 3-Year Warranty

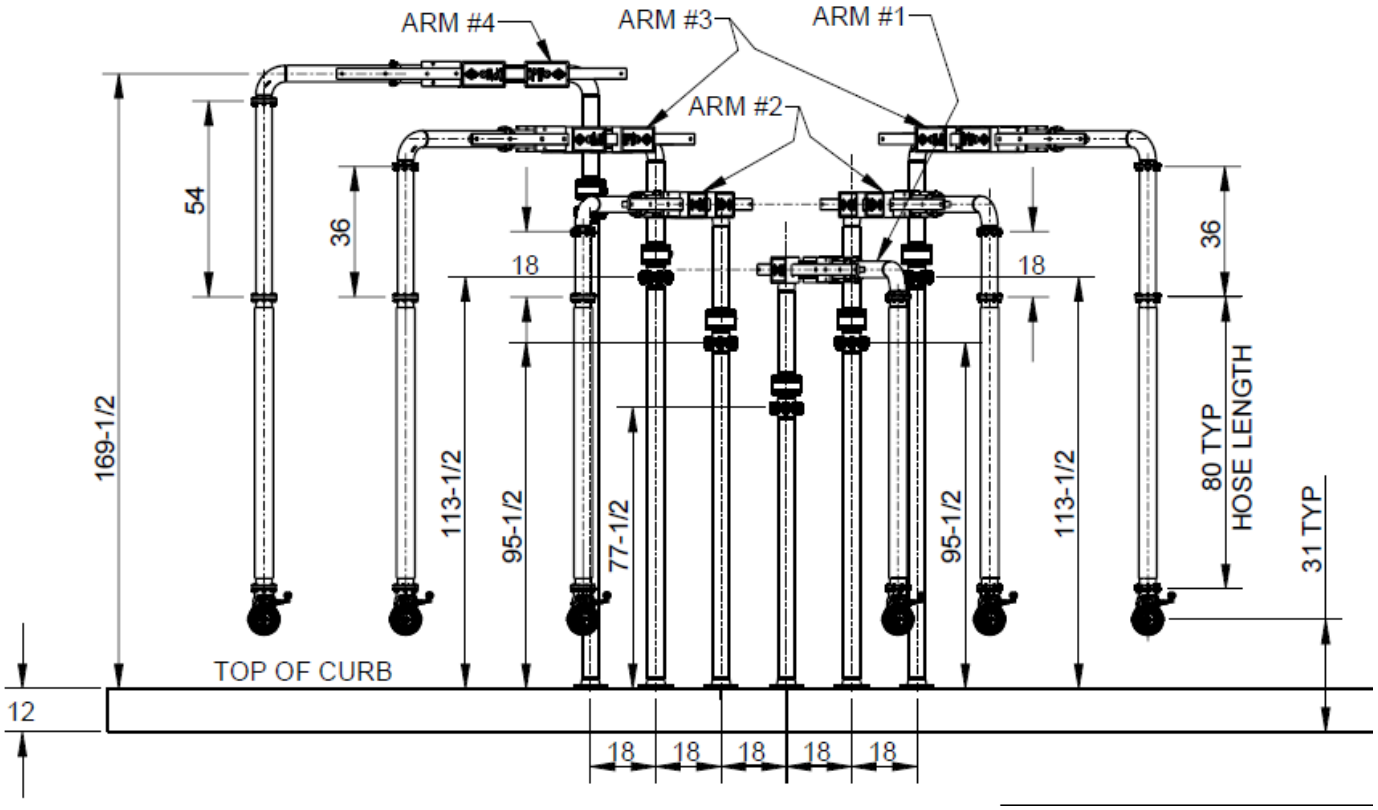
ALL **STANDARD**LINE ARMS FEATURE

- Fast Delivery
- Menu of Options to customize your arm
- Freight is included across continental U.S. & Canada
- Exclusive 3-Year Warranty included

OPW ENGINEERED SYSTEMS
a DOVER company

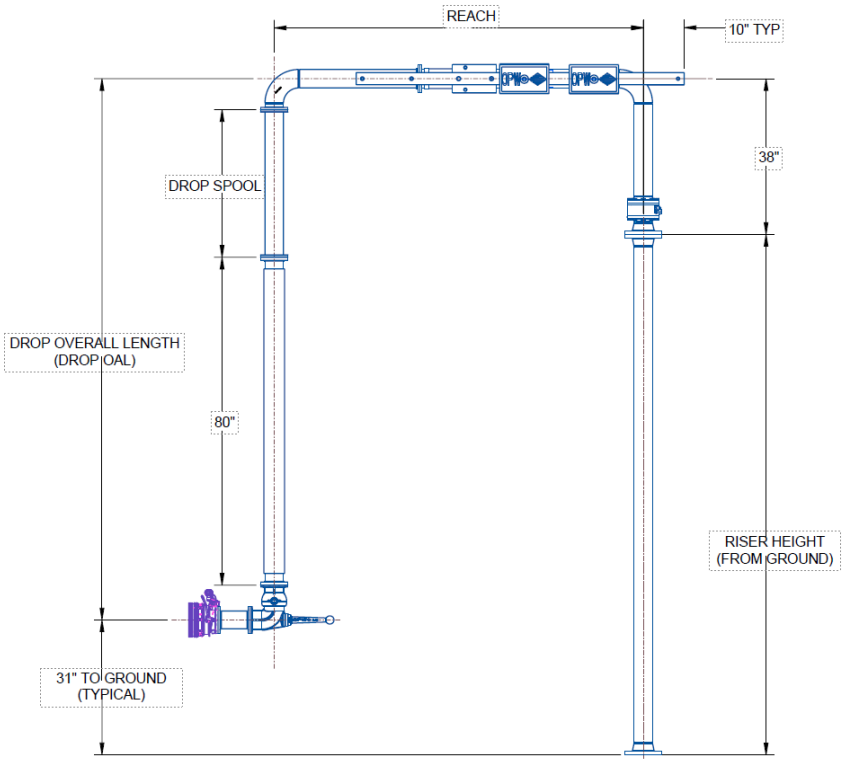
Counterweighted Hose (CWH) Loader Dimensions*

StandardLine Terminal Configuration*



Standard Dimensions

Arm Inlet Height	Hose Length	Drop Spool	Drop Overall Length	# of Weights
65"	80"	N/A	96"	2
83"	80"	18"	114"	2
101"	80"	36"	132"	4
119"	80"	54"	150"	4



Build Your Standard CWH Arm

1. Fill in the corresponding code for your selections.
2. Add accessories by filling in the appropriate corresponding number for each option.

1	2	3	4	5	-	6	7	8	9	10	11	12	13
CWH	CA	90	U4	0402		1	1	1	0	1	0	2	1

1 Loading Arm Style
CWH = Counterweight Loading Arm Style

2 Material
CA = Carbon Steel/Aluminum

3 Reach
78 = 78" Reach
90 = 90" Reach
102 = 102" Reach
114 = 114" Reach

4 Weight Quantity & Orientation
U2 = Up feed 2 Weights (<114" Drop Overall Length)
U4 = Up feed 4 Weights (>114" Drop Overall Length)

5 Size and Seal Type
0402 = 4" with Fluorocarbon

6 Drop Spool
0 = Drop Spool by Others
1 = 18" Drop Spool, Schedule 40 4" x 18" OALT TTMA Ends (710 ATT-0418)
2 = 4" X 36" (710-ATT-0436)
3 = 4" x 54" (710-ATT-0454)

7 Drop Hose
0 = Drop Hose by Others
1 = 4" x 80" RackMaster Composite, TTMA Ends (L19080)
2 = 4" x 80" Braided Stainless Steel, TTMA Ends (L19081)

8 Coupler Swivel
0 = Coupler Swivel by Others
1 = 4" Style 30 (90°) Swivel Joint w/Handle Aluminum/Fluorocarbon (3635FTH-0402)

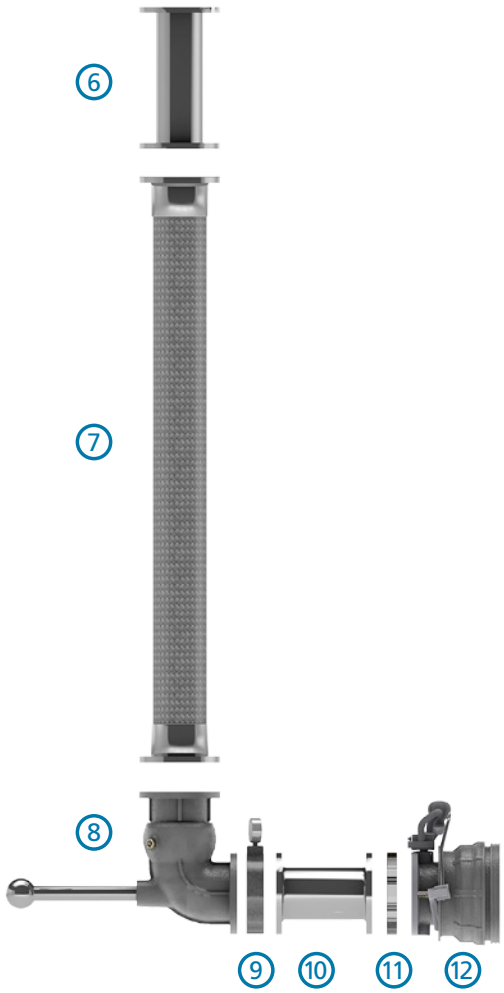
9 Isolation Valve
0 = Isolation Valve by Others
1 = 4" Full Flo (LBV 450VGL)

10 Spacer Spool
0 = Spacer Spool by Others
1 = 4" X 8" OAL, TTMA FLG (VSS4)

11 Site Glass
0 = Site Glass by Others
1 = 4" Acrylic (BF4-SG-25)

12 API Coupler
0 = API Coupler by Others
1 = 1004D3-0402
2 = LYNX Coupler (852VG)

13 Assembly, Testing and Boxing (ATB)
0 = ATB, Shipped on a Pallet
1 = ATB, Crate Included



STANDARDLINE

Technical Features	
Materials	Carbon Steel/Aluminum
Seals	Low-Temp Fluorocarbon (-20°F)
Working Pressure	80 PSI (5.5 Bar)
Test Pressure	120 PSI (8.2 Bar)
Operating Temperature	-20°F to 140°F (-29°C to 60°C)
Up/Down Angular Movement	+20° to -20° (from horizontal)
Typical Horizontal Spacing	18" (457 mm)
Typical Vertical Spacing	18" (457 mm)
Typical Reach (radius)	78", 90", 114" (1,981 mm, 2,286 mm, 2,896 mm)
Nominal Diameter	4"
Typical Flow Rates (Velocities < 15 ft/sec (7.5 M/sec)	300-600 GPM (2000-3500 LPM)
Weight	~275 lbs*

Materials of Construction	
Inlet Flange	4" 150 ANSI ASTM A105
Inlet Swivel	Carbon Steel ASTM A105
Primary Arm Piping	Sch 40 Carbon Steel ASTM A53B
Drop Hoses	(L19080) Braided Stainless Steel, TTMA Ends (L19081) Rackmaster Composite, TTMA Ends
Coupler Swivel (p/n 3635FTH-0402)	Aluminum ASTM B26 A356 T6
Isolation Valve (LBV450VGL)	Cast Aluminum/Fluorocarbon
Spacer Spool (p/n VSS4)	Cast Aluminum AA601
API Coupler (p/n: 1004D3, Lynx852VG)	Aluminum/Fluorocarbon

Additional Information	
Weld Procedure	Per the ASME Boiler & Pressure Vessel Code Section IX
Radiograph/X-Ray	Per OPW Standard, 5% random/factory lot
Testing	All assembled Loading Arms shall be tested to 1.5X the rated design pressure.
Surface Treatments	All Carbon Steel components to be protected with a 2-part paint process. Aluminum components to be unpainted.
Lubricant	OPW 880 High-Performance Synthetic Lubricant
Gasketing	Garlock 3300
Warranty	Standard warranty of three years after date of invoice shall apply. LYNX API Coupler warranty to be three years after shipment from factory. 790 Counterbalance warranty to be five years after shipment from factory.
Freight	All shipments are F.O.B Factory Lebanon, OH. Full freight is allowed on surface transportation within continental United States and Canada.
Factory Assembly, Testing & Boxing (ATB)	If this option is selected, Loading Arm would be fully assembled, tested and shipped in protective wooden crate. **Note:** It may be necessary to ship Loading Arm in sections to accommodate crating, shipping and rigging. Arm will be shipped as fully assembled as possible.

RECOMMENDED SPARE PARTS LIST**			
Part #	**Description**	**Where Used**	**Qty/Arm**
8000RK-0402	8000 Series Swivel Seal Kit, 4" Fluorocarbon	Base Swivel	1
3000RK-0402	3000 Series Swivel Seal Kit, 4" Fluorocarbon	3635FTH-0402 (Coupler Swivel)	1
1004D3SRK-0402	Coupler Seal Repair Kit, 4" Fluorocarbon	1004D3-0402 (API Coupler)	1
API850VGSK	Coupler Seal Repair Kit, 4" Fluorocarbon	Lynx852VG (API Coupler)	1

* Estimated weight for entire Loading Arm (72" Reach). Weight can vary depending on selected options.
** Other seal kits/materials available upon request.

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