



Dry Disconnect Couplings



Table of Contents

Please note that this literature is not intended to be an Installation, Operating or Maintenance (IOM) Guide. For IOM and Health and Safety information please call the KLAW team or refer to the IOM documentation supplied with the unit.

Click page number

CONTENT			Page
QS Dry Disconnect Coupling Range – quicker, cleaner and safer			4
QS Sizes			5
Technical Summary			6
Typical Media Summary			7
Features			7
Maximum Flow Rate Summary			8
Pressure Drop (Flow) Diagram			8
Safety Pin Lock			9
SIZE SELECTION	TYPE	END CONNECTION	
1" DN25 Ø56 mm	Summary		10
	Working pressures and maximum flow rate		10
	Hose Coupling	Female	11
		Male	11
		Flanged	12
	Tank Adapter	Female	12
		Male	13
		Flanged	13
2" DN50 Ø70 mm	Summary		14
	Working pressures and maximum flow rate		14
	Hose Coupling	Female	15
		Male	15
		Flanged	16
	Tank Adapter	Female	17
		Male	17
		Flanged	18
3" DN80 Ø119 mm	Summary		19
	Working pressures and maximum flow rate		19
	Hose Coupling	Female	20
		Flanged	20
	Tank Adapter	Female	21
		Flanged	21

Table of Contents

This Product information is for guidance only. Weights, dimensions and technical data is rounded and may vary according to specifications and other variables. Always confirm details with the KLAW Team when purchasing.

Click page number

CONTENT			Page
SIZE SELECTION	TYPE	END CONNECTION	
4" DN100 Ø164 mm	Summary		22
	Working pressures and maximum flow rate		22
	Hose Coupling	Female	23
		Flanged	23
	Tank Adapter	Female	24
		Flanged	24
6" DN150 Ø238mm	Summary		25
	Working pressures and maximum flow rate		25
	Hose Coupling	Female	26
		Flanged	26
	Tank Adapter	Female	27
		Flanged	28
Dust Cap	Tank Adapter		29
Selectivity	Overview		30
	1" DN25 Ø56 mm		30
	2" DN50 Ø70 mm		31
	3" DN80 Ø119 mm		31
	4" DN100 Ø164 mm		32
	6" DN150 Ø238 mm		32
Maintenance			33
Trademarks			33

QS Dry Disconnect Coupling Range – quicker, cleaner and safer

The KLAWS is much faster than other connection methods: delivering transfer time savings.
No draining of hoses or systems required: providing savings on labour and clean-up costs.

No spillage

On connection and disconnection, the valves open and close automatically. This reduces the likelihood of human error in transfer operations and reduces risk of spillage.

Single action grip and lock

The single action grip and lock **improves safety and time efficiency;** particularly useful in fast operations and demanding conditions.

Choice of twin square or round grip handles

Ergonomically **designed for easy grip,** the QS offers twin square grip handles or round handle. You choose which grip option is most suitable depending on the application and environment.



High Flow Rates

High flow rates deliver money saving efficient product transfer.

Robust design and construction

The QS is designed for applications **where robust reliability is vital to efficient operations.**

Safety pin lock

The unique pin lock provides an **additional safety feature;** crucial in fast moving or challenging environments. Preventing inadvertent disconnections, whether due to human error or operating conditions such as severe vibration.

Selectivity options

Selectivity options **protect against cross contamination** and reduce the risk of human error in transfer operations.

Typical applications

- Ship-to-Ship transfer
- Ship-to-Shore transfer
- Ship-to-Rig transfer
- Marine refuelling
- Road Tanker bulk loading and unloading
- Rail Car bulk loading and unloading
- Ship Terminal

The QS is equally suitable for both flexible hose and loading arm applications.

Minimising risk of spills

KLAWS offers experience and a track-record for innovation and reliable solutions.

If you require information or advice about safe product transfer then contact us on **+44 (0) 1373 827 100** or email **info@klawproducts.com**

QS Sizes



Size		Materials		
Imperial	Metric			
1/2" *	DN15	Aluminium	Stainless Steel	Brass**
3/4" *	DN20	Aluminium	Stainless Steel	Brass**
1	DN25	Aluminium	Stainless Steel	Brass**
1 1/4" *	DN32	Aluminium	Stainless Steel	Brass**
1 1/2" *	DN40	Aluminium	Stainless Steel	Brass**
2"	DN50	Aluminium	Stainless Steel	Brass**
2 1/2" *	DN65	Aluminium	Stainless Steel	Brass**
3"	DN80	Aluminium	Stainless Steel	Brass**
4"	DN100	Aluminium	Stainless Steel	Brass**
6"	DN150	Aluminium	Stainless Steel	Brass**

Other sizes and materials available on request.

*Sizes achieved using a reducer.

**Brass or cast bronze.

Technical Summary

Seals:	FKM (Viton®), NBR (Nitrile), EPDM, Chemraz®, Kalrez®, Isolast®. Other materials on request.
Pressure rating:	PN 10 – PN 25.
End connections:	BSP / NPT threads / DIN / ASA / TTMA flanges. (available for both tank and hose units). Other threads and flanges on request.
Compatibility:	NATO STANAG 3756. Viton® and Kalrez® are registered trademarks of DuPont Performance Elastomers. Chemraz® is a registered trademark of Green-Tweed. Isolast® is a registered trademark of Trelleborg.



Typical Media Summary / Features

Typical Media Summary

Media	1"	2"	3"	4"	6"
	DN25	DN50	DN80	DN100	DN150
Petroleum	✓	✓	✓	✓	✓
Gasoline	✓	✓	✓	✓	✓
Diesel	✓	✓	✓	✓	✓
Oil	✓	✓	✓	✓	✓
Butadiene	✓	✓	✓	✓	✓
Ammonia	✓	✓	✓	✓	✓
Ethylene Oxide	✓	✓	✓	✓	✓
Propylene Oxide	✓	✓	✓	✓	✓
Acrylonitrile	✓	✓	✓	✓	✓
Toluene	✓	✓	✓	✓	✓
Xylene	✓	✓	✓	✓	✓
Vinyl Chloride	✓	✓	✓	✓	✓
Phenol	✓	✓	✓	✓	✓
OTHER	Contact the KLAW team.				

Features

Ergonomic single action operation with square or round handle

Turn and lock mechanism

Bump ring to guide and protect

Selectivity system protects against cross contamination

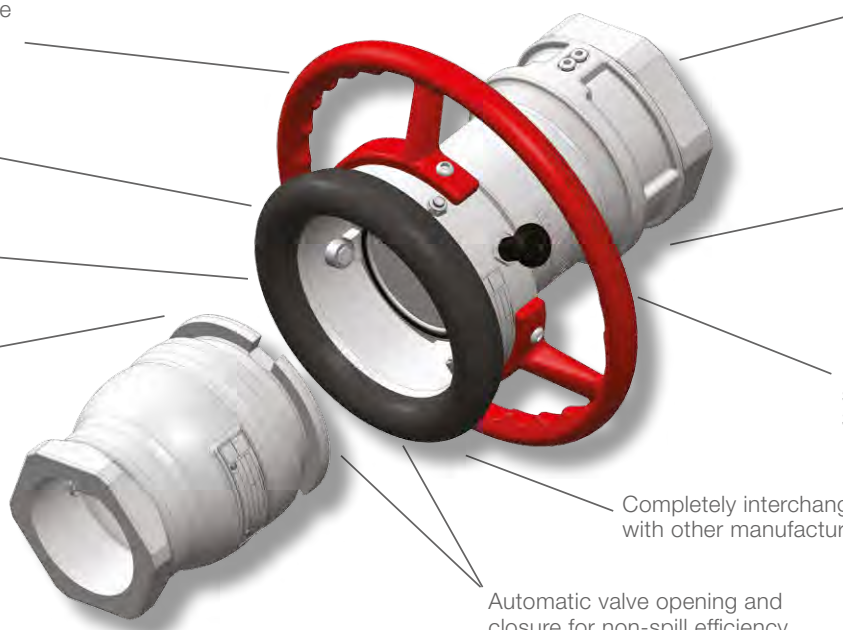
Built-in swivel aids connection/disconnection

Designed and manufactured to industry standards

Locking Pin fitted as standard for sizes 2", 3" and 4"

Completely interchangeable with other manufacturers

Automatic valve opening and closure for non-spill efficiency



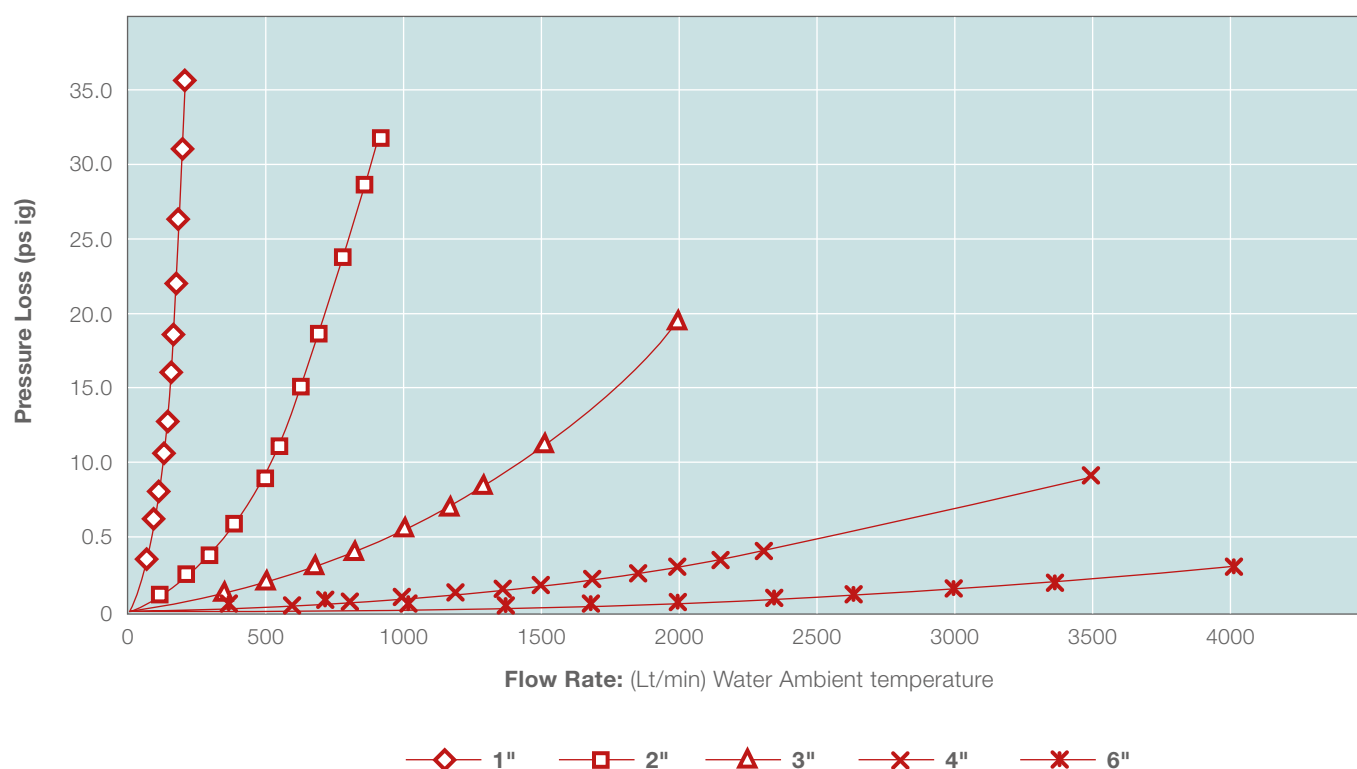
Maximum Flow Rate Summary / Pressure Drop (Flow) Diagram

Maximum Flow Rate Summary

Size	1" DN25	2" DN50	3" DN80	4" DN100	6" DN150
Flow Rate (Litres per minute)	200	900	2000	3500	4000
Flow M3/h	12	54	120	210	240

Medium used for flow test: water ambient.

Pressure Drop (Flow) Diagram



Safety Pin Lock

Pin Lock Size Reference

Size	1/2" * DN15	3/4" * DN20	1" DN25	1 1/4" * DN32	1 1/2" * DN40	2" DN50	3" DN80	4" DN100	6" DN150
Locking Pin				✓	✓	✓	✓	✓	**

* Sizes achieved using a Reducer

** Available on request



The QS Safety Pin Lock prevents inadvertent disconnections.

Hose Coupling / Tank Adapter Information – 1" DN25 Ø56 mm

According to NATO STANAG 3756

Size range including reducers		
1"	¾"	½"
DN25	DN20	DN15

Working Pressures and Maximum Flow Rate

Material	Pressure rating	Test Pressure
Aluminium	16 bar/232 psi	24 bar/348 psi
Stainless Steel	25 bar/363 psi	37.5 bar/544 psi
Brass	16 bar/232 psi	24 bar/348 psi

Maximum Flow Rate – 200 litres per minute (based on water ambient).

Connection Sizes

½", ¾" and 1" in BSP NPT and flanged end connection.

Typical Applications

Road and refuelling of tankers, railcar, marine transfer vessels, intermediate bulk containers and processing plants.

Typical Media

Petroleum: Gasoline, Diesel, oil. **Chemical:** Butadiene, Ammonia, Ethylene Oxide, Propylene Oxide, Acrylonitrile, Toluene, Xylene, Vinyl Chloride, Phenol. **Liquefied gases.** **Other:** contact KLAW team.

Typical Industries

Petrochemical and pharmaceutical.

Material

Aluminium, Stainless Steel, Brass. For other materials contact the KLAW team.

Seals

Standards seals are available in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile), Isolast®. For other seal materials contact the KLAW team.

Selectivity

Risk of contamination caused by incorrect hose to tanker connection is removed with the QS Selectivity feature. Specified at time of order.

Compatibility

Industry standard connectivity: compatible with all industry standard products such as TODO, Avery Hardoll Mann-Tek.

Hose Coupling: FEMALE End Connection – 1" DN25 Ø56 mm

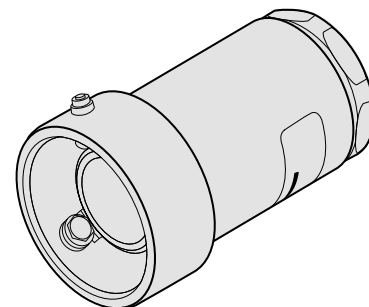
Sizes and Weights: Hose Unit: Female end connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F ½"	DN15	1.1	0.5	2.87	1.3	3.09	1.4
F ¾"	DN20	1.1	0.5	2.87	1.3	3.09	1.4
F 1"	DN25	1.1	0.5	2.87	1.3	3.09	1.4
F 1 ¼"	DN32	1.1	0.5	2.87	1.3	3.09	1.4

Specifications: Hose Unit: Female end connection

Material	Aluminium, Stainless Steel, Brass
Seal	Viton®
O-ring	Standard FPM/FKM (Viton®)

Seal / O-ring / Threads: other available on request.



Hose Coupling: MALE End Connection – 1" DN25 Ø56 mm

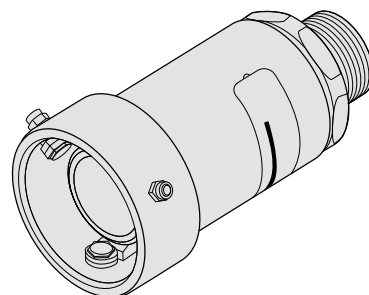
Sizes: Hose Unit Coupling: Male connection

Imperial	Metric
M ½"	DN15
M ¾"	DN20
M 1"	DN25

Specifications: Coupling: Male connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Threads: other available on request.

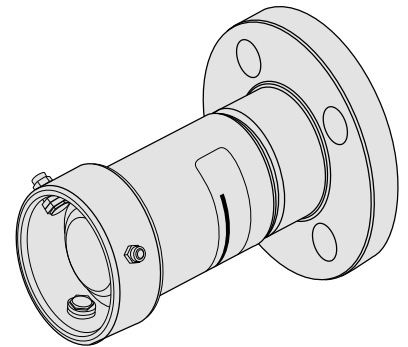


Hose Coupling: FLANGED End Connection – 1" DN25 Ø56 mm**Sizes and Weights:** Hose Unit: Flanged end connection

Sizes		Pressure Rating	Weights					
Imperial	Metric		Aluminium		Stainless Steel		Brass	
			lbs	kg	lbs	kg	lbs	kg
1 "	DN25	PN 10/16	2.42	1.1	4.85	2.2	3.53	1.6
1 "	DN25	PN 25/40	2.42	1.1	4.85	2.2	3.53	1.6
1 "	DN25	PSI 150	2.42	1.1	4.85	2.2	3.53	1.6
1 "	DN25	PSI 300	2.42	1.1	4.85	2.2	3.53	1.6

Specifications: Hose Unit: Flanged end connection

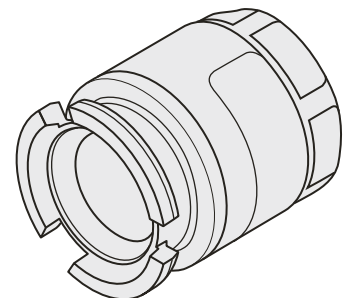
Flanges	ANSI DIN
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Flanges: other available on request.**Tank Adapter: FEMALE End Connection – 1" DN25 Ø56 mm****Sizes and Weights:** Tank Unit: Female end connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
1 "	DN15	0.66	0.3	1.54	0.7	1.54	0.7
1 "	DN20	0.66	0.3	1.54	0.7	1.54	0.7
1 "	DN25	0.66	0.3	1.54	0.7	1.54	0.7

Specifications: Tank Unit: Female end connection

Material	Aluminium, Stainless Steel, Brass
Seal	Viton®
O-ring	Standard FPM/FKM (Viton®)

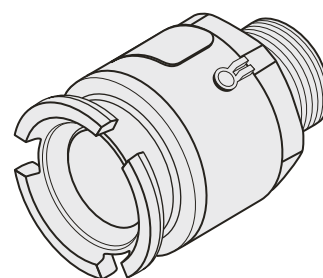
Seal / O-ring: other available on request.

Tank Adapter: MALE End Connection – 1" DN25 Ø56 mm**Sizes and Weights:** Tank Unit: Female end connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
M ¾"	DN20	0.66	0.3	1.54	0.7	1.54	0.7
M 1"	DN25	0.66	0.3	1.54	0.7	1.54	0.7

Specifications: Tank Unit: Male connection

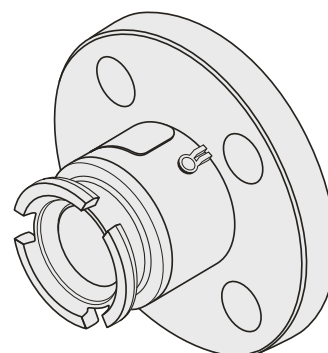
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Threads: other available on request.**Tank Adapter: FLANGED End Connection – 1" DN25 Ø56 mm****Sizes and Weights:** Tank Unit: Flanged end connection

Sizes		Pressure Rating	Weights					
Imperial	Metric		Aluminium		Stainless Steel		Brass	
			lbs	kg	lbs	kg	lbs	kg
1 "	DN25	PN 10/16	2.42	1.1	3.31	1.5	3.53	1.6
1 "	DN25	PN 25/40	2.42	1.1	3.31	1.5	3.53	1.6
1 "	DN25	PSI 150	2.42	1.1	3.31	1.5	3.53	1.6
1 "	DN25	PSI 300	2.42	1.1	3.31	1.5	3.53	1.6

Specifications: Tank Unit: Flanged Inlet – 1" Ø56mm

Flanges	ANSI DIN
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Flanges: other available on request.

Hose Coupling / Tank Adapter Information – 2" DN50 Ø70 mm

According to NATO STANAG 3756



Size range including reducers

2"	1½"	1¼"
DN50	DN40	DN32

Working Pressures

Material	Pressure Rating	Test Pressure
Aluminium	16 bar/232 psi	24 bar/348 psi
Stainless Steel	25 bar/363 psi	37.5 bar/544 psi
Brass	16 bar/232 psi	24 bar/348 psi

Maximum Flow Rate – 900 litres per minute (based on water ambient).

Connection Sizes

1 ¼", 1 ½" and 2" in BSP NPT and flanged end connection.

Typical Applications

Road and refuelling of tankers, railcar, marine transfer vessels, intermediate bulk containers and processing plants.

Typical Media

Petroleum: Gasoline, Diesel, oil. **Chemical:** Butadiene, Ammonia, Ethylene Oxide, Propylene Oxide, Acrylonitrile, Toluene, Xylene, Vinyl Chloride, Phenol. **Liquefied gases.** **Other:** contact KLAW team.

Typical Industries

Petrochemical and pharmaceutical.

Material

Aluminium, Stainless Steel, Brass/Gunmetal. For other materials contact the KLAW team.

Seals

Standards seals are available in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile) Isolast®. For other seal materials contact the KLAW team.

Selectivity

Risk of contamination caused by incorrect hose to tanker connection is removed with the QS Selectivity feature. Specified at time of order.

Compatibility

Industry standard connectivity: compatible with all industry standard products such as TODO, Avery Hardoll and Mann-Tek.

Hose Coupling: FEMALE End Connection – 2" DN50 Ø70 mm

Sizes and Weights: Coupling: Female end connection

NATO STANAG 3756

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F 1 ½" NPT	DN40	5.95	2.7	11.02	5	11.68	5.3
F 2" NPT	DN50	5.29	2.4	9.92	4.5	10.47	4.75
F 1 ½" BSP	DN40	5.95	2.7	11.02	5	11.68	5.3
F 2" BSP	DN50	5.29	2.4	9.92	4.5	10.47	4.75

Specifications: Coupling: Female end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

Seal / O-ring / Threads: other available on request.

Flat seals: Coupling: Female end connection

Thread	Metric	Aluminium	Stainless Steel	Brass
F 1 ½" NPT	DN40			
F 2" NPT	DN50			
F 1 ½" BSP	DN40	PTFE Teflon ®	PTFE Teflon ®	PTFE Teflon ®
F 2" BSP	DN50	PTFE Teflon ®	PTFE Teflon ®	PTFE Teflon ®

Hose Coupling: MALE End Connection – 2" DN50 Ø70 mm

Summary: Coupling: Male end connection

Imperial	Metric
M 2"	DN50

Specifications: Coupling: Male end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Threads: other available on request.

Hose Coupling: FLANGED End Connection – 2" DN50 Ø70 mm**Sizes and Weights:** Coupling: Flanged end connection

Size		Pressure Rating	Weights	
Imperial	Metric		lbs	kg
Aluminium				
1 ½"	DN40	PN 10/16	7.94	3.6
2"	DN50	PN 10/16	8.38	3.3
1 ½"	ANSI	LB 150	7.5	3.3
2"	ANSI	LB 150	8.6	3
Stainless Steel				
1 ½"	DN40	PN 10/16	16.76	7.6
1 ½"	DN40	PN 25/40	16.76	7.6
2"	DN50	PN 10/16	15.65	7.1
2"	DN50	PN 25/40	15.65	7.1
1 ½"	ANSI	LB 150	14.99	6.8
1 ½"	ANSI	LB 300	16.76	7.6
2"	ANSI	LB 150	13.89	6.3
2"	ANSI	LB 300	15.65	7.1
Brass				
1 ½"	DN40	PN 10/16	17.75	8.05
1 ½"	DN40	PN 25/40	17.75	8.05
2"	DN50	PN 10/16	16.53	7.5
2"	DN50	PN 25/40	16.53	7.5
1 ½"	ANSI	LB 150	15.76	7.15
1 ½"	ANSI	LB 300	17.75	8.05
2"	ANSI	LB 150	14.55	6.6
2"	ANSI	LB 300	16.53	7.5

Specifications: Coupling: Flanged end connection

Flanges	ANSI DIN
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Flanges: other available on request.

Tank Adapter: FEMALE End Connection – 2" DN50 Ø70 mm

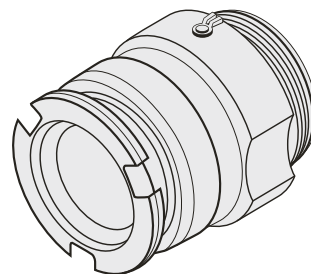
Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F 1 1/2"	DN40	1.98	0.9	4.41	2	4.74	2.15
F 2"	DN50	1.32	0.6	3.31	1.5	3.53	1.6

Specifications: Tank Unit: Female end connection

Material	Aluminium, Stainless Steel, Brass
Seal	Viton®
O-ring	Standard FPM/FKM (Viton®)

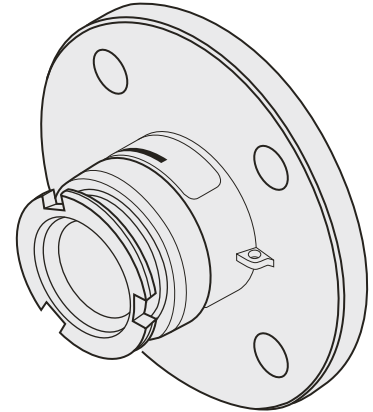
Seal / O-ring / Threads: other available on request.**Tank Adapter: MALE End Connection – 2" DN50 Ø70 mm****Specifications:** Tank Unit: Male end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Threads: other available on request.

Tank Adapter: FLANGED End Connection – 2" DN50 Ø70 mm**Sizes and Weights:** Tank Unit: Flanged end connection

Size		Pressure Rating	Weights	
Imperial	Metric		lbs	kg
Aluminium				
1 ½"	DN40	PN 10/16	3.97	1.8
2"	DN50	PN 10/16	3.31	1.5
1 ½"	ANSI	LB150	3.75	1.7
2"	ANSI	LB150	3.09	1.4
Stainless Steel				
1 ½"	DN40	PN 10/16	10.36	4.7
1 ½"	DN40	PN 25/40	10.36	4.7
1 ½"	ANSI	LB 150	9.04	4.1
1 ½"	ANSI	LB 300	10.58	4.8
2"	DN50	PN 25/40	9.26	4.2
2"	DN50	PN 10/16	9.26	4.2
2"	ANSI	LB 150	7.94	3.6
2"	ANSI	LB 300	9.48	4.3
Brass				
1 ½"	DN40	PN 10/16	11.24	5.1
1 ½"	DN40	PN 25/40	11.24	5.1
2"	DN50	PN 10/16	9.92	4.5
2"	DN50	PN 25/40	9.92	4.5
1 ½"	ANSI	LB 150	9.7	4.4
1 ½"	ANSI	LB 300	11.24	5.1
2"	ANSI	LB 150	8.38	3.8
2"	ANSI	LB 300	9.92	4.5

**Specifications:** Coupling: Flanged end connection

Flanges	ANSI DIN
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Flanges: other available on request.

Hose Coupling / Tank Adapter Information – 3" DN80 Ø119 mm

According to NATO STANAG 3756



Size range including reducers

3"	2½"
DN80	DN65

Working Pressures

Material	Pressure Rating	Test Pressure
Aluminium	16 bar/145 psi	15 bar/218 psi
Stainless Steel	25 bar/363 psi	37.5 bar/544 psi
Brass	16 bar/232 psi	24 bar/348 psi

Maximum Flow Rate – 2000 litres per minute (based on water ambient).

Connection Sizes

3" in BSP NPT and flanged end connection.

Typical Applications

Road and refuelling of tankers, railcar, marine transfer vessels, intermediate bulk containers and processing plants.

Typical Media

Petroleum: Gasoline, Diesel, oil. **Chemical:** Butadiene, Ammonia, Ethylene Oxide, Propylene Oxide, Acrylonitrile, Toluene, Xylene, Vinyl Chloride, Phenol. **Liquefied gases.** **Other:** contact KLAW team.

Typical Industries

Petrochemical and pharmaceutical.

Material

Aluminium, Stainless Steel, Brass/Gunmetal. For other materials contact the KLAW team.

Seals

Standards seals are available in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile), Isolast®. For other seal materials contact the KLAW team.

Selectivity

Risk of contamination caused by incorrect hose to tanker connection is removed with the QS Selectivity feature. Specified at time of order.

Compatibility

Industry standard connectivity: compatible with all industry standard products such as TODO, Avery Hardoll and Mann-Tek.

Hose Coupling: FEMALE End Connection – 3" DN80 Ø119 mm

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Female end connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F 3" NPT	DN80	10.36	4.7	21.38	9.7	22.73	10.3
F 3" BSP	DN80	10.36	4.7	21.38	9.7	22.73	10.3

Specifications:

Coupling: Female end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

Seal / O-ring / Threads: other available on request.**Hose Coupling: FLANGED End Connection – 3" DN80 Ø119 mm**

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Flanged end Connection

Size		Pressure Rating	Weights	
Imperial	Metric		lbs	kg
Aluminium				
3"	DN80	PN 10/16	13.01	5.9
3"	ANSI	PSI 150	13.45	6.1
Stainless Steel				
3"	DN80	PN 10/16	29.32	13.3
3"	DN80	PN 25/40	29.1	13.2
3"	ANSI	LB 150	30.42	13.8
3"	ANSI	LB 300	34.83	15.8
Brass				
3"	DN80	PN 10/16	31.09	14.1
3"	DN80	PN 25/40	3.86	14
3"	ANSI	LB 150	32.41	14.7
3"	ANSI	LB 300	37.06	16.8

Specifications: Coupling: Female end connection

Flanges	ANSI DIN
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

Seal / O-ring / Flanges: other available on request.

Tank Adapter: FEMALE End Connection – 3" DN80 Ø119 mm

Conforming to NATO STANAG 3756

Sizes and Weights: Tank Unit: Female connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F 3" NPT	DN80	2.87	1.3	7.5	3.5	8.16	3.7
F 3" BSP	DN80	2.87	1.3	7.5	3.5	8.16	3.7

**Specifications:**

Tank Unit: Female end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

Seal / O-ring / Threads: other available on request.

Tank Adapter: FLANGED End Connection – 3" DN80 Ø119 mm

Sizes and Weights: Tank Unit: Flanged end connection

Size		Pressure Rating	Weights	
Imperial	Metric		lbs	kg
Aluminium				
2 ½"	DN65	PN 10/16	7.28	3.3
3"	DN80	PN 10/16	5.51	2.5
3"	DN80	ANSI 150	5.95	2.7
Stainless Steel				
2 ½"	DN65	PN 10/16	17.2	7.8
2 ½"	DN65	PN 25/40	16.98	7.7
3"	DN80	PN 10/16	15.65	7.1
3"	DN80	PN 25/40	15.65	7.1
3"	DN80	ANSI 150	16.76	7.6
3"	DN80	ANSI 300	21.16	9.6
Brass				
2 ½"	DN65	PN 10/16	18.3	8.3
2 ½"	DN65	PN 25/40	18.08	8.2
3"	DN80	PN 10/16	16.53	7.5
3"	DN80	PN 25/40	16.31	7.4
3"	DN80	ANSI 150	18.86	8.1
3"	DN80	ANSI 300	22.49	10.2



Specifications: Tank Unit: Flanged end connection

Flanges	ANSI DIN
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Flanges: other available on request.

Hose Coupling / Tank Adapter Information – 4" DN100 Ø164 mm

According to NATO STANAG 3756



Working Pressures

Material	Pressure Rating	Test Pressure
Aluminium	16 bar/145 psi	24 bar/218 psi
Stainless Steel	25 bar/363 psi	37.5 bar/544 psi
Brass	16 bar/232 psi	24 bar/348 psi

Maximum Flow Rate – 3500 litres per minute (based on water ambient).

Connection Sizes

4" in BSP NPT and flanged end connection.

Typical Applications

Loading and offloading tankers, aviation fuelling, railcar, marine transfer vessels, ship-to-shore.

Typical Media

Petroleum: Gasoline, Diesel, oil. **Chemical:** Butadiene, Ammonia, Ethylene Oxide, Propylene Oxide, Acrylonitrile, Toluene, Xylene, Vinyl Chloride, Phenol. **Liquefied gases.** **Other:** contact KLAW team.

Typical Industries

Petrochemical and pharmaceutical.

Material

Aluminium, Stainless Steel, Brass. For other materials contact the KLAW team.

Seals

Standards seals are available in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile), Isolast®. For other seal materials contact the KLAW team.

Selectivity

Risk of contamination caused by incorrect hose to tanker connection is removed with the QS Selectivity feature. Specified at time of order.

Compatibility

Industry standard connectivity: compatible with all industry standard products such as TODO, Avery Hardoll and Mann-Tek.

Hose Coupling: FEMALE End Connection – 4" DN100 Ø164 mm

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Female end connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F 4" NPT	DN100	19.4	8.8	37.48	17	39.02	17.7
F 4" BSP	DN100	19.18	8.7	37.26	16.9	38.8	17.6

Specifications: Coupling: Female end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

Seal / O-ring: other available on request.

Hose Coupling: FLANGED End Connection – 4" DN100 Ø164 mm

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Flanged end connection

Size		Pressure Rating	Weights	
Imperial	Metric		lbs	kg
Aluminium				
4"	DN100	PN 10/16	24.25	11
4"	ANSI	PN 25/40	25.35	11.5
Stainless Steel				
4"	DN100	PN 10/16	46.3	21
4"	DN100	PN 25/40	51.81	23.5
4"	ANSI	PSI 150	48.5	22
4"	ANSI	PSI 300	57.32	26
Brass				
4"	DN100	PN 10/16	48.5	22
4"	DN100	PN 25/40	54.01	24.5
4"	ANSI	PSI 150	50.71	23
4"	ANSI	PSI 300	59.52	27



Specifications: Coupling: Flanged end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring: other available on request.

Tank Adapter: FEMALE End Connection – 4" DN100 Ø164 mm

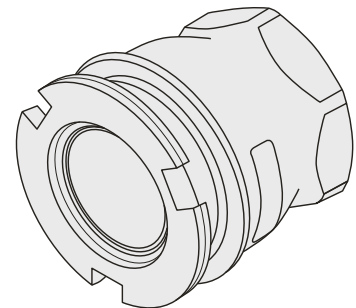
Conforming to NATO STANAG 3756

Sizes and Weights: Tank Unit: Female connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F 4" NPT	DN100	5.73	2.6	14.99	6.8	15.87	7.2
F 4" BSP	DN100	5.51	2.5	14.77	6.7	15.65	7.1

Specifications: Tank Unit: Female end connection

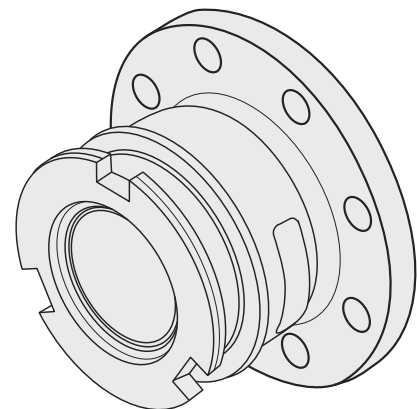
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Threads: other available on request.**Tank Adapter: FLANGED End Connection – 4" DN100 Ø164 mm**

Conforming to NATO STANAG 3756

Sizes and Weights: Tank Unit: Flanged end connection

Size		Pressure Rating	Weights	
Imperial	Metric		lbs	kg
Aluminium				
4"	DN100	PN 10/16	9.04	4.1
4"	ANSI	LB 150	9.92	4.5
Stainless Steel				
4"	DN100	PN 10/16	23.59	10.7
4"	DN100	PN 25/40	29.1	13.2
4"	ANSI	LB 150	25.79	11.7
4"	ANSI	LB 300	34.17	15.5
Brass				
4"	DN100	PN 10/16	24.91	11.3
4"	DN100	PN 25/40	30.64	13.9
4"	ANSI	LB 150	27.12	12.3
4"	ANSI	LB 300	35.94	16.3

**Specifications:** Tank Unit: Flanged end connection

Flanges	ANSI DIN
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Flanges: other available on request.

Hose Coupling / Tank Adapter Information – 6" DN150 Ø238 mm

According to NATO STANAG 3756



Working Pressures

Material	Pressure Rating	Test Pressure
Aluminium	10 bar/145 psi	15 bar/218 psi
Stainless Steel	16 bar/363 psi	24 bar/544 psi
Brass	10 bar/232 psi	15 bar/348 psi

Maximum Flow Rate – 4000 litres per minute (based on water ambient).

Connection Sizes

6" in BSP NPT and flanged end connection.

Typical Applications

Marine bunkering, ship-to-shore transfer, ship-to-ship transfer, ship-to-rig transfer.

Typical Media

Petroleum: Gasoline, Diesel, oil. **Chemical:** Butadiene, Ammonia, Ethylene Oxide, Propylene Oxide, Acrylonitrile, Toluene, Xylene, Vinyl Chloride, Phenol. **Liquefied gases.** **Other:** contact KLAW team.

Typical Industries

Product transfer in marine environment.

Material

Aluminium, Stainless Steel, Brass. For other materials contact the KLAW team.

Seals

Standards seals are available in FPM (Viton®), EPDM, Chemraz®, Kalrez®, NBR (Nitrile), Isolast®. For other seal materials contact the KLAW team.

Selectivity

Risk of contamination caused by incorrect hose to tanker connection is removed with the QS Selectivity feature. Specified at time of order.

Compatibility

Industry standard connectivity: compatible with all industry standard products such as TODO, Avery Hardoll and Mann-Tek.

Hose Coupling: FEMALE End Connection – 6" DN 150 Ø238 mm

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Female end connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F 6" NPT	DN150	66.14	30	123.46	56	130.07	59
F 6" BSP	DN150	63.93	29	121.25	55	127.87	58

Specifications: Coupling: Female end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

Seal / O-ring / Threads: other available on request.

Hose Coupling: FLANGED End Connection – 6" DN150 Ø238 mm

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Flanged end connection

Size		Pressure Rating	Weights	
Imperial	Metric		lbs	kg
Aluminium				
6"	DN150	PN 10/16	70.55	32
6"	ANSI	PSI 150	70.55	32
Stainless Steel				
6"	DN150	PN 10/16	138.89	63
6"	ANSI	PSI 150	138.89	63
Brass				
6"	DN150	PN 10/16	145.51	66
6"	ANSI	PSI 150	145.51	66

Specifications: Coupling: Flanged end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring: other available on request.

Tank Adapter: FEMALE End Connection – 6" DN150 Ø238 mm

Conforming to NATO STANAG 3756

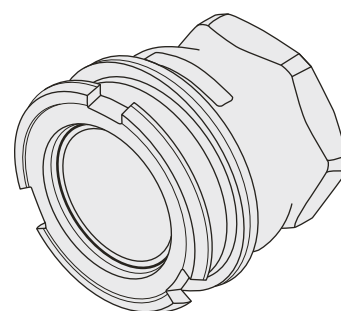
Sizes and Weights: Tank Unit: Female connection

Sizes		Weights					
Imperial	Metric	Aluminium		Stainless Steel		Brass	
		lbs	kg	lbs	kg	lbs	kg
F 6" NPT	DN150	24.25	11	48.5	22	50.71	23
F 6" BSP	DN150	23.15	10.5	46.3	21	48.5	22

Specifications: Tank Unit: Female end connection

Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

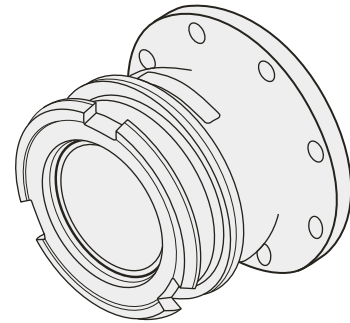
O-ring / Threads: other available on request.

**Flat Seals**

Imperial	Metric	Aluminium	Stainless Steel	Brass
F 6" BSP	DN150	PUR Vulkollan®	PTFE Teflon ®	

Tank Adapter: FLANGED End Connection – 6" DN150 Ø238 mm**Sizes and Weights:** Tank Unit: Flanged end connection

Size		Pressure Rating	Weights	
Imperial	Metric		lbs	kg
Aluminium				
6"	DN150	PN 10/16	28.66	13
6"	ANSI	PSI 150	28.66	13
Stainless Steel				
6"	DN150	PN 10/16	61.73	28
6"	ANSI	PSI 150	61.73	28
Brass				
6"	DN150	PN 10/16	63.93	29
6"	ANSI	PSI 150	63.93	29

**Specifications:** Tank Unit: Flanged end connection

Flanges	ANSI DIN
Material	Aluminium, Stainless Steel, Brass
O-ring	Standard FPM/FKM (Viton®)

O-ring / Flanges: other available on request.

Dust Cap: Tank Adapter

The Dust Cap protects the Tank Adapter and its valve against the invasion of dirt, water and other contaminants with the KLAW range of dust caps.

Materials: Available in Composite, Aluminium, Stainless Steel and Rubber.

Material	Seal
1" DN20 to DN25 Ø56	
Composite	Standard FPM (Viton®)
Aluminium	Standard FPM (Viton®)
Stainless Steel	Standard FPM (Viton®)
2" DN40 to DN50 Ø70 mm	
Composite	NBR (Nitrile®)
Aluminium	Standard FPM (Viton®)
Stainless Steel	Standard FPM (Viton®)
Rubber	N/A
3" DN80 Ø119 mm	
Composite	NBR (Nitrile®)
Aluminium	Standard FPM (Viton®)
Stainless Steel	Standard FPM (Viton®)
Rubber	N/A
4" DN100 Ø164 mm	
Composite	Standard FPM (Viton®)
Aluminium	Standard FPM (Viton®)
Stainless Steel	Standard FPM (Viton®)
Rubber	N/A
6" DN150 Ø238 mm	
Composite	Standard FPM (Viton®)
Aluminium	Standard FPM (Viton®)
Stainless Steel	Standard FPM (Viton®)

Other specifications: Seal available on request.



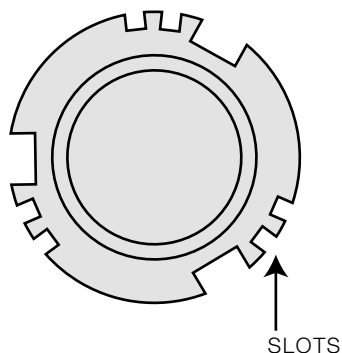
Selectivity overview

Selectivity overview

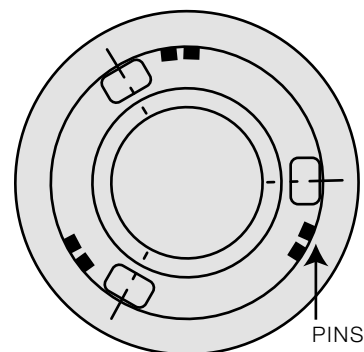
To prevent accidental mixing of media, selectivity versions of Hose and Tank units are available. The Tank units are furnished with slots and Hose units with pins.

A number of selectivity positions are possible depending on coupling size.

Tank unit

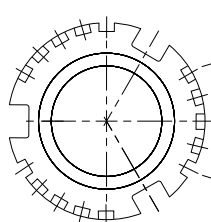


Hose unit

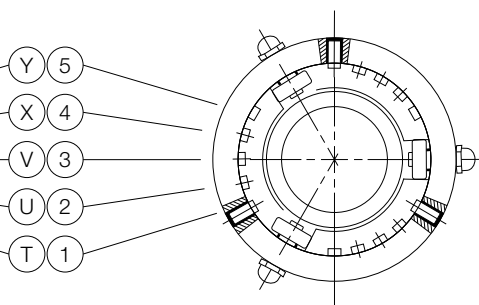


1" (Ø56 mm)

Tank unit



Hose unit



Product / Media	Position
Acrylonite	X (4)
Ethylene oxide	U (2)
Propylene	V (3)

Selectivity positions for Acrylonite, Ethylene oxide and Propylene oxide for 1".

With 5 options

T	U	V	X	Y
---	---	---	---	---

With 10 options

12	13	14	15	23
24	25	34	35	45

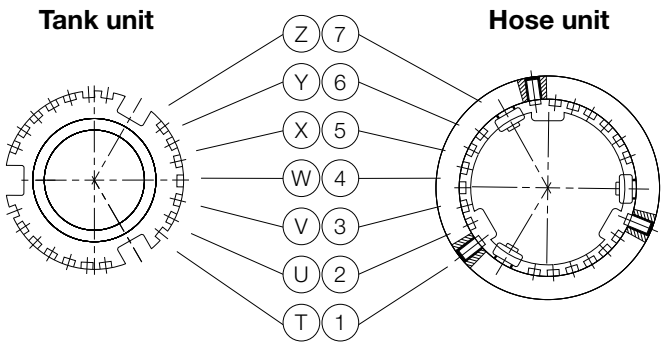
Selectivity system: KLAW

Compatible with TODO, Mann Tek, Avery Hardoll.

Each unit can be provided with selectivity according to two systems. With 5 options from T to Y or with 10 options from 12 to 45 (see table).

NATO STANAG 3756

2" (Ø70 mm)



Selectivity system: KLAW
TODO, Avery Hardoll, Mann Tek
(7pos) NATO STANAG 3756 (21 pos with figures).

Each Hose and Tank unit can be provided with selectivity according to two systems. With 7 alternatives from T to Z or with 21 alternatives from TU(12) to YZ(67) (see table).

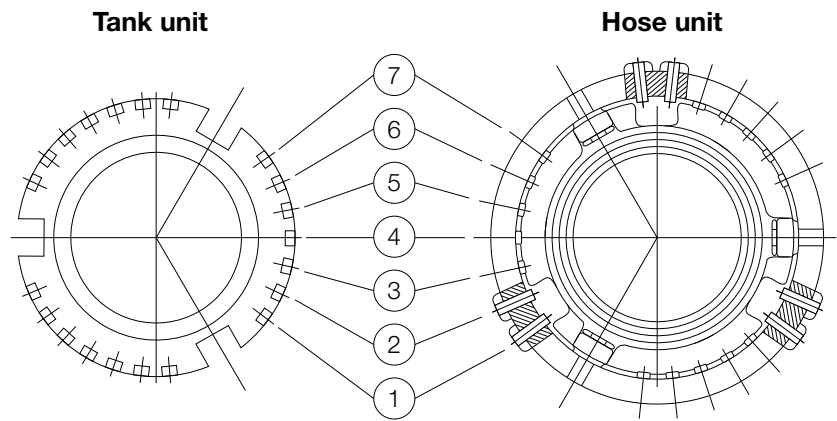
Product / Media	Position
Acrylonite	X (5)
Ethylene oxide	U (3)
Propylene	V (4)

Selectivity positions for Acrylonite, Ethylene oxide and Propylene oxide for 2".

T	U	V	W	X	Y	Z
---	---	---	---	---	---	---

Pin & slot position										
12	13	14	15	16	17	23	24	25	26	27
TU	TV	TW	TX	TY	TZ	UV	UW	UX	UY	UZ
VW	VX	VY	VZ	WX	WY	WZ	XY	XZ	YZ	
34	35	36	37	45	46	47	56	57	67	

3" (Ø119 mm)



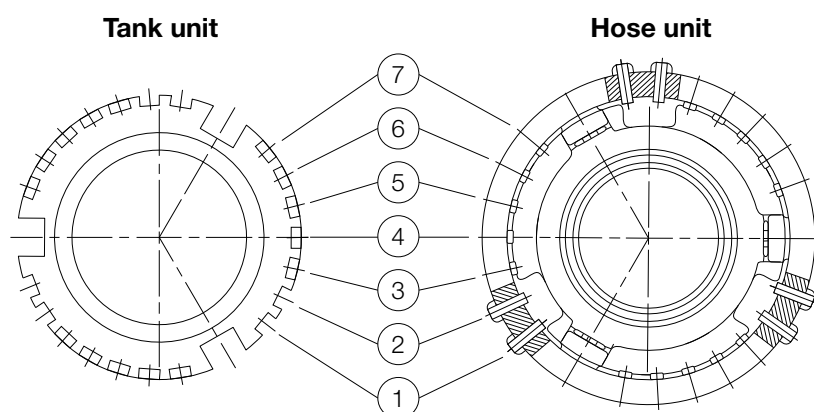
Selectivity system: KLAW
TODO, Avery Hardoll, Mann Tek.
Each unit can be provided with selectivity from 12 (A) to 67 (W) with 21 alternatives (see table).
NATO STANAG 3756

Product / Media	Position
Acrylonite	P (36)
Ethylene oxide	M (34)
Propylene	N (35)

Selectivity positions for Acrylonite, Ethylene oxide and Propylene oxide for 3".

Pin & slot position										
A	B	C	D	E	F	G	H	I	K	L
12	13	14	15	16	17	23	24	25	26	27
34	35	36	37	45	46	47	56	57	67	
M	N	P	Q	R	S	T	U	V	W	

4" (Ø164 mm)



Product / Media	Position
Acrylonite	3 6
Ethylene oxide	3 4
Propylene	3 5

Selectivity positions for Acrylonite, Ethylene oxide and Propylene oxide for 3".

Selectivity system: KLAW
TODO, Avery Hardoll, Mann Tek.

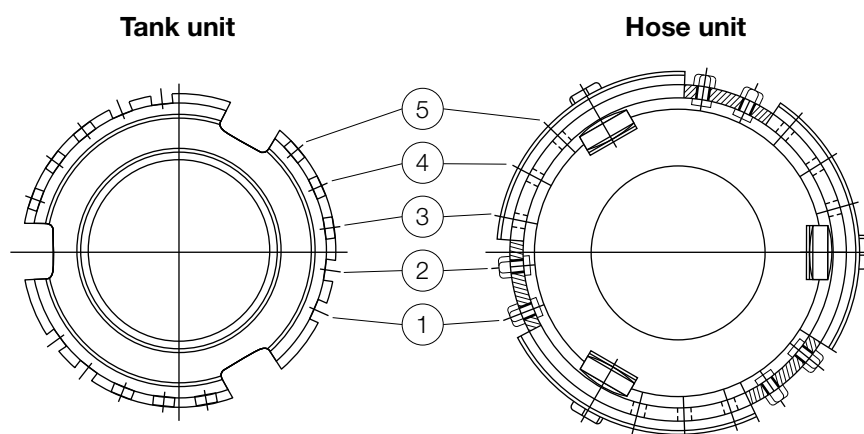
Each unit can be provided with selectivity from 12 (A) to 67 (W) with 21 alternatives (see table).

NATO STANAG 3756

Pin & slot position

12	13	14	15	16	17	23	24	25	26	27
34	35	36	37	45	46	47	56	57	67	

6" (Ø238 mm)



Selectivity system: KLAW
Compatible with TODO, Mann Tek.

Each unit can be provided with selectivity from 12 to 45) with 10 alternatives (see table).

With 10 options

12	13	14	15	23
24	25	34	35	45

Maintenance

It is important to read and understand the Installation, Operations and Maintenance Manual (IOM) supplied with the unit. For further details and copies of the QS IOM, please contact the KLAW team.

Trademarks

Acknowledgement of Trademarks used in this literature

Viton® (FPM) is a registered trademark of Dupont Performance Elastomers.

Kalrez® are registered trademarks of DuPont Performance Elastomers.

Chemraz® is a registered trademark of Green-Tweed.

Isolast® is a registered trademark of Trelleborg.

The KLAW range

Marine Breakaway Couplings
Industrial Breakaway Couplings
Full Bore Marine Breakaway Couplings
Emergency Release Systems
Cryogenic Emergency Release Systems
Dry Disconnect Couplings
Camlocks
Swivel Joints



The advantages of KLAW transfer safety systems

KLAW designs and supplies a range of systems designed to improve safety and efficiency during the transfer of media.

This enables you to minimise risk to assets, personnel, the environment and reputation and protect against downtime and clean-up costs, litigation, injury, increased insurance and investment costs caused by higher risk.

KLAW offers experience and a track-record for innovation and reliable solutions.

KLAW

KLAW Products Ltd
Commerce Business Centre
West Wilts Trading Estate
Westbury, Wiltshire
BA13 4LS, United Kingdom



Tel: +44 (0) 1373 827 100
Fax: +44 (0) 1373 858 877
www.klawproducts.com
info@klawproducts.com

Product descriptions and specifications are subject to change without prior notice. KLAW recommends that all information and data are confirmed with our technical department before specifying, ordering or commissioning. Copyright © All information provided is subject to international copyright, trademark and patent laws and cannot be reproduced without the expressed and written permission of KLAW Products Ltd. Trademarks protected: KLAW™ and QS™, QS Square™, QS Round™. Protected by Worldwide Patents.



K.QS.1407D

A Signum Technology company