



Dry Disconnect Couplings



Contents

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

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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.

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Easy ordering of QS standard units using the KLAW CODE MAKER

Next to each item is the relevant Part Number Guide.

For example, to order:

QS Hose Coupling with Female End Connection - 2" DN50 Ø70mm

Stainless steel with NPT Connection

The Part Number would be:

DLH **020** **S** ZVW **U** BAZ

Alternatively you can order by email or by telephone using the item description.

| | | | | | |
|-----------------|------------|--|------------|----------|------------|
| 2" | 020 | | | | |
| 1½" | 215 | | | | |
| DLH | | | ZVW | | BPZ |
| Stainless Steel | S | | BSPP | M | |
| Aluminium | A | | BSPT | P | |
| | | | NPT | U | |



QS Dry Disconnect Coupling Range – quicker, cleaner and safer

The KLAW QS 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 Lock Pin

The unique Lock Pin provides an **additional safety feature;** crucial in fast moving or challenging environments. The Lock Pin prevents inadvertent disconnections; whether due to human error or operating conditions such as severe vibration. The Lock Pin is fitted as standard for sizes 2", 3" and 4".

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
- Railcar bulk loading and unloading
- Ship Terminal
- Liquid/Bulk Terminal

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

Minimising risk of spills

KLAW 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
info@klawproducts.com

QS Sizes



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

Other sizes and materials available on request.

*Sizes achieved using a reducer.

Technical Summary

| | |
|-------------------------|---|
| Seals: | FKM (Viton®), NBR (Nitrile), EPDM, Chemraz®, Kalrez®, Isolast®. Other materials available on request. |
| Pressure rating: | PN 10 – PN 25. |
| End connections: | BSP / NPT threads / DIN / ANSI / TTMA flanges. (available for both tank and hose units). Other threads and flanges available on request. |
| Compatibility: | NATO STANAG 3756. |
| Trademarks: | 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. |

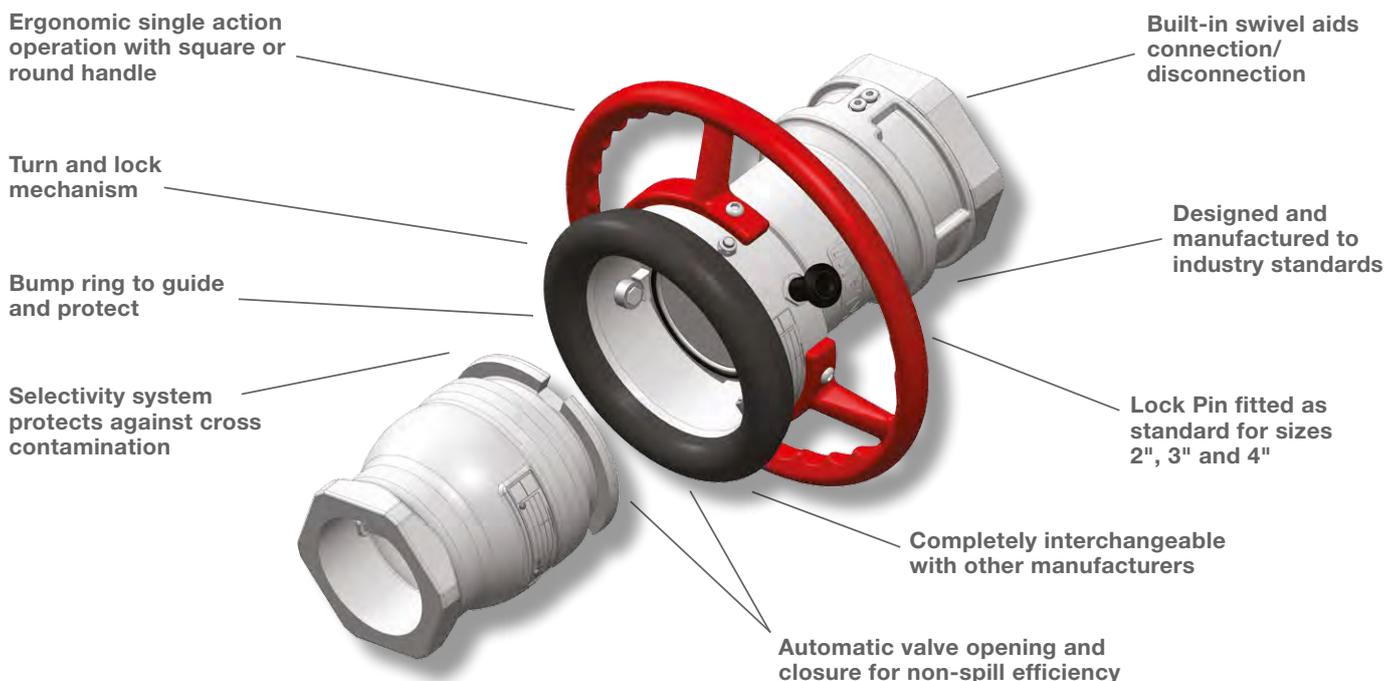


Typical Media Summary / Features

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



Maximum Flow Rate Summary / Pressure Drop (Flow) Diagram

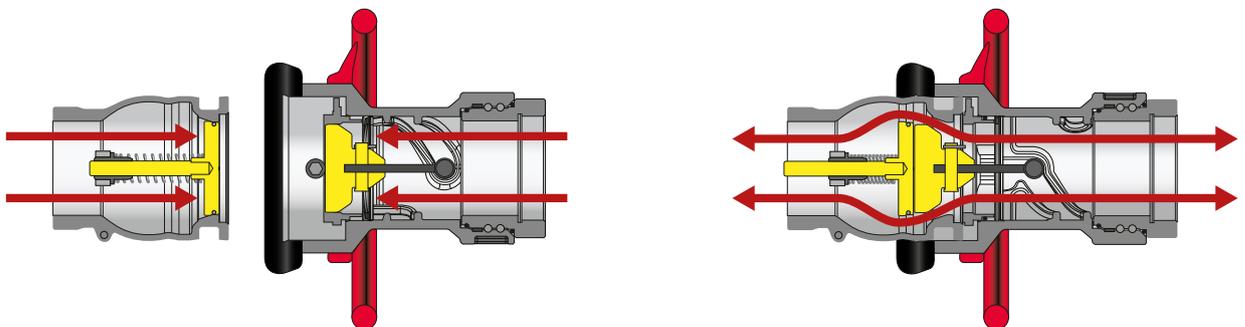
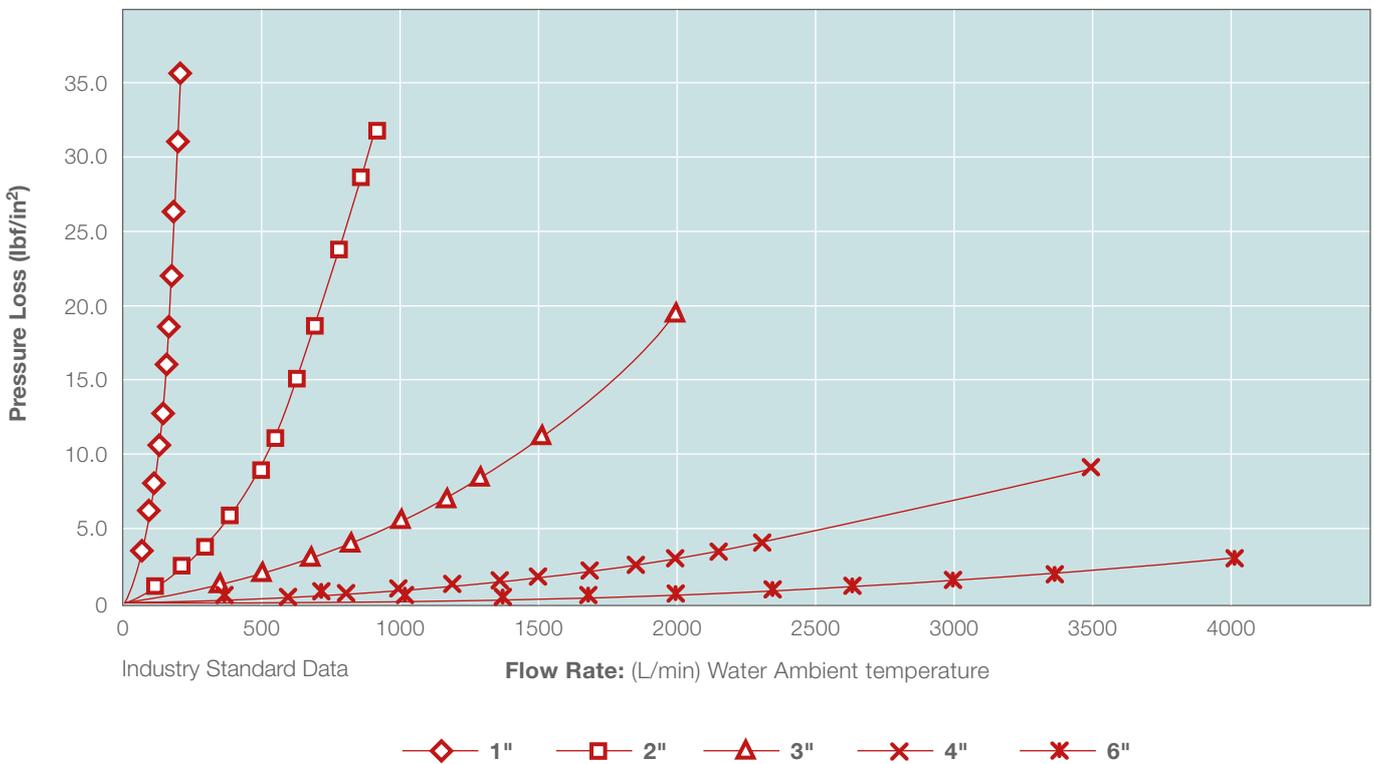
Maximum Flow Rate Summary

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

Medium used for flow test: water ambient.

Industry Standard Data

Pressure Drop (Flow) Diagram



Safety Lock Pin

Lock Pin Size Reference

| Sizes | 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 Lock Pin prevents inadvertent disconnections.

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

Conforming 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 |

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

Industry Standard Data

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 the KLAW team.

Typical Industries

Petrochemical and pharmaceutical.

Material

Aluminium, Stainless Steel. 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.

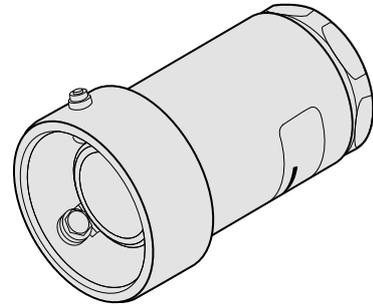
Compatibility

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

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

Sizes and Weights: Hose Unit: Female end connection

| Sizes | | Weights | | | |
|----------|--------|-----------|-----|-----------------|-----|
| Imperial | Metric | Aluminium | | Stainless Steel | |
| | | lbs | kg | lbs | kg |
| F 1/2" | DN15 | 1.1 | 0.5 | 2.87 | 1.3 |
| F 3/4" | DN20 | 1.1 | 0.5 | 2.87 | 1.3 |
| F 1" | DN25 | 1.1 | 0.5 | 2.87 | 1.3 |
| F 1 1/4" | DN32 | 1.1 | 0.5 | 2.87 | 1.3 |



Specifications: Hose Unit: Female end connection

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

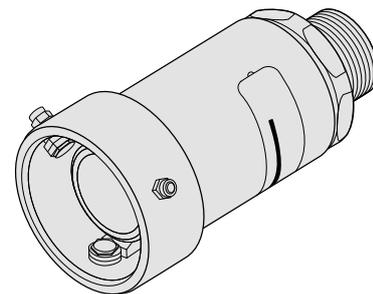
| DLH | 010 | | ZW | | CZZ |
|-----------------|-----|---|------|--|-----|
| Stainless Steel | | S | BSPP | | M |
| Aluminium | | A | BSPT | | P |
| | | | NPT | | U |

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

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

Sizes: Hose Unit Coupling: Male end connection

| Imperial | Metric |
|----------|--------|
| M 1/2" | DN15 |
| M 3/4" | DN20 |
| M 1" | DN25 |



Specifications: Coupling: Male end connection

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

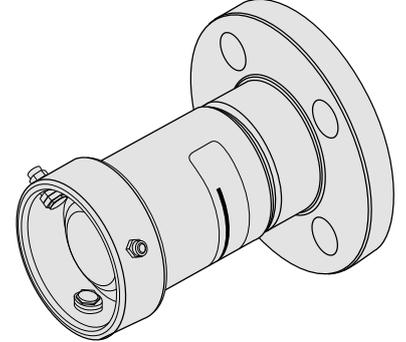
| DLH | 010 | | ZW | | CZZ |
|-----------------|-----|---|------|--|-----|
| Stainless Steel | | S | BSPP | | N |
| Aluminium | | A | BSPT | | R |
| | | | NPT | | V |

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 | |
| | | | lbs | kg | lbs | kg |
| 1" | DN25 | PN 10/16 | 2.42 | 1.1 | 4.85 | 2.2 |
| 1" | DN25 | PN 25/40 | 2.42 | 1.1 | 4.85 | 2.2 |
| 1" | DN25 | ANSI 150 | 2.42 | 1.1 | 4.85 | 2.2 |
| 1" | DN25 | ANSI 300 | 2.42 | 1.1 | 4.85 | 2.2 |



Specifications: Hose Unit: Flanged end connection

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

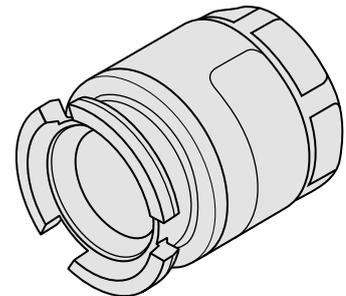
O-ring / Flanges: other available on request.

| DLH | 010 | | ZV | |
|-----------------|-----|--|----------|----|
| Stainless Steel | S | | ANSI 150 | A1 |
| Aluminium | A | | ANSI 300 | B1 |
| | | | PN10 | G1 |
| | | | PN16 | H1 |
| | | | PN25 | J1 |
| | | | PN40 | K1 |

Tank Adapter: FEMALE End Connection – 1" DN25 Ø56 mm

Sizes and Weights: Tank Unit: Female end connection

| Sizes | | Weights | | | |
|----------|--------|-----------|-----|-----------------|-----|
| Imperial | Metric | Aluminium | | Stainless Steel | |
| | | lbs | kg | lbs | kg |
| 1" | DN25 | 0.66 | 0.3 | 1.54 | 0.7 |



Specifications: Tank Unit: Female end connection

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

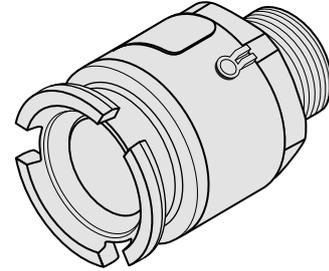
Seal / O-ring: other available on request.

| DLT | 010 | | ZV | |
|-----------------|-----|--|------|---|
| Stainless Steel | S | | BSPP | M |
| Aluminium | A | | BSPT | P |
| | | | NPT | U |

Tank Adapter: MALE End Connection – 1" DN25 Ø56 mm

Sizes and Weights: Tank Unit: Male end connection

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



Specifications: Tank Unit: Male end connection

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

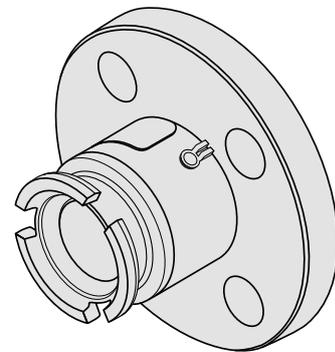
O-ring / Threads: other available on request.

| DLT | 010 | | ZV | |
|-----------------|-----|--|------|---|
| Stainless Steel | S | | BSPP | N |
| Aluminium | A | | BSPT | R |
| | | | NPT | V |

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 | |
| | | | lbs | kg | lbs | kg |
| 1" | DN25 | PN 10/16 | 2.42 | 1.1 | 3.31 | 1.5 |
| 1" | DN25 | PN 25/40 | 2.42 | 1.1 | 3.31 | 1.5 |
| 1" | DN25 | ANSI 150 | 2.42 | 1.1 | 3.31 | 1.5 |
| 1" | DN25 | ANSI 300 | 2.42 | 1.1 | 3.31 | 1.5 |



Specifications: Tank Unit: Flanged Inlet – 1" Ø56mm

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

O-ring / Flanges: other available on request.

| DLT | 010 | | ZV | |
|-----------------|-----|--|----------|----|
| Stainless Steel | S | | ANSI 150 | A1 |
| Aluminium | A | | ANSI 300 | B1 |
| | | | PN10 | G1 |
| | | | PN16 | H1 |
| | | | PN25 | J1 |
| | | | PN40 | K1 |

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

Conforming 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 |

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

Connection Sizes

1¼", 1½" 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 the KLAW team.

Typical Industries

Petrochemical and pharmaceutical.

Material

Aluminium, Stainless Steel.
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 | |
| | | lbs | kg | lbs | kg |
| F 1½" NPT | DN40 | 5.95 | 2.7 | 11.02 | 5 |
| F 2" NPT | DN50 | 5.29 | 2.4 | 9.92 | 4.5 |
| F 1½" BSP | DN40 | 5.95 | 2.7 | 11.02 | 5 |
| F 2" BSP | DN50 | 5.29 | 2.4 | 9.92 | 4.5 |

| | | | | | |
|-----------------|-----|--|------|--|-----|
| 2" | 020 | | | | |
| 1½" | 215 | | | | |
| DLH | | | ZVW | | BPZ |
| Stainless Steel | S | | BSPP | | M |
| Aluminium | A | | BSPT | | P |
| | | | NPT | | U |

Specifications: Coupling: Female end connection

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

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

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

Sizes: Coupling: Male end connection

| Imperial | Metric |
|----------|--------|
| M 2" | DN50 |

Specifications: Coupling: Male end connection

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

O-ring / Threads: other available on request.

| | | | | | |
|-----------------|-----|--|------|--|-----|
| DLH | 020 | | ZVW | | BPZ |
| Stainless Steel | S | | BSPP | | N |
| Aluminium | A | | BSPT | | R |
| | | | NPT | | V |

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

Sizes and Weights: Coupling: Flanged end connection

| Sizes | | Pressure Rating | Weights | |
|------------------------|--------|-----------------|---------|-----|
| Imperial | Metric | | lbs | kg |
| Aluminium | | | | |
| 1½" | DN40 | PN 10/16 | 7.94 | 3.6 |
| 2" | DN50 | PN 10/16 | 8.38 | 3.3 |
| 1½" | DN40 | ANSI 150 | 7.5 | 3.3 |
| 2" | DN50 | ANSI 150 | 8.6 | 3 |
| Stainless Steel | | | | |
| 1½" | DN40 | PN 10/16 | 16.76 | 7.6 |
| 1½" | 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 |
| 1½" | DN40 | ANSI 150 | 14.99 | 6.8 |
| 1½" | DN40 | ANSI 300 | 16.76 | 7.6 |
| 2" | DN50 | ANSI 150 | 13.89 | 6.3 |
| 2" | DN50 | ANSI 300 | 15.65 | 7.1 |

Specifications: Coupling: Flanged end connection

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

O-ring / Flanges: other available on request.

| | | | | |
|-----------------|------------|----------|-----------|------------|
| 2" | 020 | | | |
| 1½" | 215 | | | |
| DLH | | | ZV | BAZ |
| Stainless Steel | S | ANSI 150 | A1 | |
| Aluminium | A | ANSI 300 | B1 | |
| | | PN10 | G1 | |
| | | PN16 | H1 | |
| | | PN25 | J1 | |
| | | PN40 | K1 | |



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

Sizes and Weights: Tank Unit: Female end connection

| Sizes | | Weights | | | |
|----------|--------|-----------|-----|-----------------|-----|
| Imperial | Metric | Aluminium | | Stainless Steel | |
| | | lbs | kg | lbs | kg |
| F 1½" | DN40 | 1.98 | 0.9 | 4.41 | 2 |
| F 2" | DN50 | 1.32 | 0.6 | 3.31 | 1.5 |



Specifications: Tank Unit: Female end connection

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

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

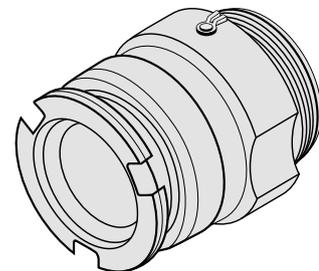
| | | | | |
|-----------------|-----|--|------|---|
| 2" | 020 | | | |
| 1½" | 215 | | | |
| DLT | | | ZV | |
| Stainless Steel | S | | BSPP | M |
| Aluminium | A | | BSPT | P |
| | | | NPT | U |

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

Specifications: Tank Unit: Male end connection

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

O-ring / Threads: other available on request.

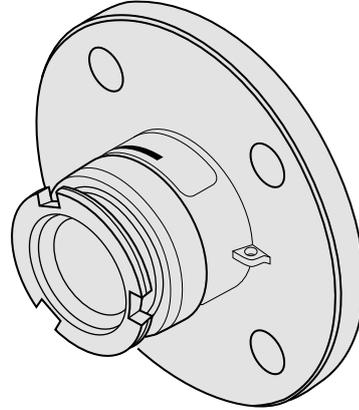


| | | | | |
|-----------------|-----|--|------|---|
| 2" | 020 | | | |
| 1½" | 215 | | | |
| DLT | | | ZV | |
| Stainless Steel | S | | BSPP | N |
| Aluminium | A | | BSPT | R |
| | | | NPT | V |

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

Sizes and Weights: Tank Unit: Flanged end connection

| Sizes | | Pressure Rating | Weights | |
|------------------------|--------|-----------------|---------|-----|
| Imperial | Metric | | lbs | kg |
| Aluminium | | | | |
| 1½" | DN40 | PN 10/16 | 3.97 | 1.8 |
| 2" | DN50 | PN 10/16 | 3.31 | 1.5 |
| 1½" | DN40 | ANSI 150 | 3.75 | 1.7 |
| 2" | DN50 | ANSI 150 | 3.09 | 1.4 |
| Stainless Steel | | | | |
| 1½" | DN40 | PN 10/16 | 10.36 | 4.7 |
| 1½" | DN40 | PN 25/40 | 10.36 | 4.7 |
| 1½" | DN40 | ANSI 150 | 9.04 | 4.1 |
| 1½" | DN40 | ANSI 300 | 10.58 | 4.8 |
| 2" | DN50 | PN 25/40 | 9.26 | 4.2 |
| 2" | DN50 | PN 10/16 | 9.26 | 4.2 |
| 2" | DN50 | ANSI 150 | 7.94 | 3.6 |
| 2" | DN50 | ANSI 300 | 9.48 | 4.3 |



Specifications: Coupling: Flanged end connection

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

O-ring / Flanges: other available on request.

| | | | |
|-----------------|------------|----------|-----------|
| 2" | 020 | | |
| 1½" | 215 | | |
| DLT | | | ZV |
| Stainless Steel | S | ANSI 150 | A1 |
| Aluminium | A | ANSI 300 | B1 |
| | | PN10 | G1 |
| | | PN16 | H1 |
| | | PN25 | J1 |
| | | PN40 | K1 |

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

Conforming to NATO STANAG 3756



Size range including reducers

| | |
|------|------|
| 3" | 2½" |
| DN80 | DN65 |

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 |

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

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. 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 | |
| | | lbs | kg | lbs | kg |
| F 3" NPT | DN80 | 10.36 | 4.7 | 21.38 | 9.7 |
| F 3" BSP | DN80 | 10.36 | 4.7 | 21.38 | 9.7 |

Specifications: Coupling: Female end connection

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

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



| | | | | | |
|-----------------|------------|--|------------|--|------------|
| 2½" | 025 | | | | |
| 3" | 030 | | | | |
| DLH | | | ZVV | | BAZ |
| Stainless Steel | S | | BSPP | | M |
| Aluminium | A | | BSPT | | N |
| | | | BSPT | | P |
| | | | PN15 | | R |
| | | | NPT | | U |
| | | | NPT | | V |

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

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Flanged end connection

| Sizes | | Pressure Rating | Weights | |
|------------------------|--------|-----------------|---------|------|
| Imperial | Metric | | lbs | kg |
| Aluminium | | | | |
| 3" | DN80 | PN 10/16 | 13.01 | 5.9 |
| 3" | DN80 | ANSI 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" | DN80 | ANSI 150 | 30.42 | 13.8 |
| 3" | DN80 | ANSI 300 | 34.83 | 15.8 |

| | | | | | |
|-----------------|------------|--|------------|--|------------|
| 2½" | 025 | | | | |
| 3" | 030 | | | | |
| DLH | | | ZVV | | BAZ |
| Stainless Steel | S | | ANSI 150 | | B1 |
| Aluminium | A | | ANSI 300 | | B1 |
| | | | PN10 | | G1 |
| | | | PN15 | | H1 |
| | | | PN25 | | J1 |
| | | | PN40 | | K1 |

Specifications: Coupling: Female end connection

| | |
|----------|----------------------------|
| Flanges | ANSI, DIN |
| Material | Aluminium, Stainless Steel |
| 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 | |
| | | lbs | kg | lbs | kg |
| F 3" NPT | DN80 | 2.87 | 1.3 | 7.5 | 3.5 |
| F 3" BSP | DN80 | 2.87 | 1.3 | 7.5 | 3.5 |

Specifications: Tank Unit: Female end connection

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

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



| | | | | |
|-----------------|-----|--|------|---|
| 2½" | 025 | | | |
| 3" | 030 | | | |
| DLT | | | ZV | |
| Stainless Steel | S | | BSPP | M |
| Aluminium | A | | BSPT | N |
| | | | BSPT | P |
| | | | PN15 | R |
| | | | NPT | U |
| | | | NPT | V |

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

Sizes and Weights: Tank Unit: Flanged end connection

| Sizes | | Pressure Rating | Weights | |
|------------------------|--------|-----------------|---------|-----|
| Imperial | Metric | | lbs | kg |
| Aluminium | | | | |
| 2½" | 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 | | | | |
| 2½" | DN65 | PN 10/16 | 17.2 | 7.8 |
| 2½" | 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 |



| | | | | |
|-----------------|-----|--|----------|----|
| 2½" | 025 | | | |
| 3" | 030 | | | |
| DLT | | | ZV | |
| Stainless Steel | S | | ANSI 150 | B1 |
| Aluminium | A | | ANSI 300 | B1 |
| | | | PN10 | G1 |
| | | | PN15 | H1 |
| | | | PN25 | J1 |
| | | | PN40 | K1 |

Specifications: Tank Unit: Flanged end connection

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

O-ring / Flanges: other available on request.

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

Conforming to NATO STANAG 3756



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 |

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

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 the KLAW team.

Typical Industries

Petrochemical and pharmaceutical.

Material

Aluminium, Stainless Steel. 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 | |
| | | lbs | kg | lbs | kg |
| F 4" NPT | DN100 | 19.4 | 8.8 | 37.48 | 17 |
| F 4" BSP | DN100 | 19.18 | 8.7 | 37.26 | 16.9 |



Specifications: Coupling: Female end connection

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

Seal / O-ring: other available on request.

| DLH | 040 | ZVW | BAZ |
|-----------------|----------|------|-----------------|
| Stainless Steel | S | BSPP | M Female |
| Aluminium | A | BSPP | N Male |
| | | BSPT | P Female |
| | | BSPT | R Male |
| | | NPT | U Female |
| | | NPT | V Male |

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

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Flanged end connection

| Sizes | | Pressure Rating | Weights | |
|------------------------|--------|-----------------|---------|------|
| Imperial | Metric | | lbs | kg |
| Aluminium | | | | |
| 4" | DN100 | PN 10/16 | 24.25 | 11 |
| 4" | DN100 | 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" | DN100 | ANSI 150 | 48.5 | 22 |
| 4" | DN100 | ANSI 300 | 57.32 | 26 |

Specifications: Coupling: Flanged end connection

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

O-ring: other available on request.

| DLH | 040 | ZVW | BAZ |
|-----------------|----------|----------|-----------|
| Stainless Steel | S | ANSI 150 | A1 |
| Aluminium | A | ANSI 300 | B1 |
| | | PN10 | G1 |
| | | PN16 | H1 |
| | | PN25 | J1 |
| | | PN40 | K1 |

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 | |
| | | lbs | kg | lbs | kg |
| F 4" NPT | DN100 | 5.73 | 2.6 | 14.99 | 6.8 |
| F 4" BSP | DN100 | 5.51 | 2.5 | 14.77 | 6.7 |

Specifications: Tank Unit: Female end connection

| | |
|----------|----------------------------|
| Material | Aluminium, Stainless Steel |
| 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

| Sizes | | Pressure Rating | Weights | |
|------------------------|--------|-----------------|---------|------|
| Imperial | Metric | | lbs | kg |
| Aluminium | | | | |
| 4" | DN100 | PN 10/16 | 9.04 | 4.1 |
| 4" | DN100 | ANSI 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" | DN100 | ANSI 150 | 25.79 | 11.7 |
| 4" | DN100 | ANSI 300 | 34.17 | 15.5 |

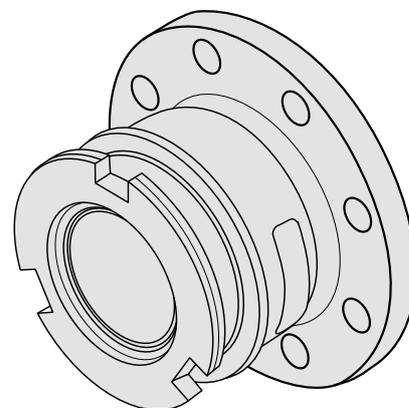
Specifications: Tank Unit: Flanged end connection

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

O-ring / Flanges: other available on request.



| DLH | 040 | ZV | |
|-----------------|-----|------|----------|
| Stainless Steel | S | BSPP | M Female |
| Aluminium | A | BSPP | N Male |
| | | BSTT | P Female |
| | | BSPT | R Male |
| | | NPT | U Female |
| | | NPT | V Male |



| DLT | 040 | ZV | |
|-----------------|-----|----------|----|
| Stainless Steel | S | ANSI 150 | A1 |
| Aluminium | A | ANSI 300 | B1 |
| | | PN10 | G1 |
| | | PN16 | H1 |
| | | PN25 | J1 |
| | | PN40 | K1 |

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

Conforming 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/348 psi |

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

Industry Standard Data

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 the KLAW team.

Typical Industries

Product transfer in marine environment.

Material

Aluminium, Stainless Steel. 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" DN150 Ø238 mm

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Female end connection

| Sizes | | Weights | | | |
|----------|--------|-----------|----|-----------------|----|
| Imperial | Metric | Aluminium | | Stainless Steel | |
| | | lbs | kg | lbs | kg |
| F 6" NPT | DN150 | 66.14 | 30 | 123.46 | 56 |
| F 6" BSP | DN150 | 63.93 | 29 | 121.25 | 55 |



Specifications: Coupling: Female end connection

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

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

| DLH | 060 | | ZV | | AAZ |
|-----------------|----------|------|----------|--|--------|
| Stainless Steel | S | BSPP | M | | Female |
| Aluminium | A | BSPT | N | | Male |
| | | BSPT | R | | Male |
| | | NPT | U | | Female |
| | | NPT | V | | Male |

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

Conforming to NATO STANAG 3756

Sizes and Weights: Coupling: Flanged end connection

| Sizes | | Pressure Rating | Weights | |
|------------------------|--------|-----------------|---------|----|
| Imperial | Metric | | lbs | kg |
| Aluminium | | | | |
| 6" | DN150 | PN 10/16 | 70.55 | 32 |
| 6" | DN150 | ANSI 150 | 70.55 | 32 |
| Stainless Steel | | | | |
| 6" | DN150 | PN 10/16 | 138.89 | 63 |
| 6" | DN150 | ANSI 150 | 138.89 | 63 |

Specifications: Coupling: Flanged end connection

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

O-ring: other available on request.

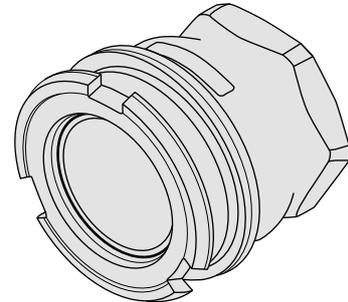
| DLH | 060 | | ZV | | AAZ |
|-----------------|----------|----------|-----------|--|-----|
| Stainless Steel | S | ANSI 150 | A1 | | |
| Aluminium | A | PN10 | G1 | | |

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

Conforming to NATO STANAG 3756

Sizes and Weights: Tank Unit: Female end connection

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



Specifications: Tank Unit: Female end connection

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

O-ring / Threads: other available on request.

Flat Seals: Tank Unit: Female end connection

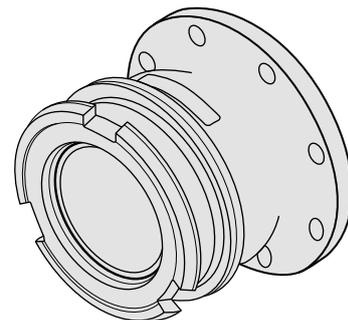
| Imperial | Metric | Aluminium | Stainless Steel | Brass |
|----------|--------|----------------|-----------------|--------------|
| F 6" BSP | DN150 | PUR Vulkollan® | PTFE Teflon® | PTFE Teflon® |

| DLH | 060 | ZV | |
|-----------------|----------|------|-----------------|
| Stainless Steel | S | BSPP | M Female |
| Aluminium | A | BSPP | N Male |
| | | BSPT | P Female |
| | | BSPT | R Male |
| | | NPT | U Female |
| | | NPT | V Male |

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

Sizes and Weights: Tank Unit: Flanged end connection

| Sizes | | Pressure Rating | Weights | |
|------------------------|--------|-----------------|---------|----|
| Imperial | Metric | | lbs | kg |
| Aluminium | | | | |
| 6" | DN150 | PN 10/16 | 28.66 | 13 |
| 6" | DN150 | ANSI 150 | 28.66 | 13 |
| Stainless Steel | | | | |
| 6" | DN150 | PN 10/16 | 61.73 | 28 |
| 6" | DN150 | ANSI 150 | 61.73 | 28 |



Specifications: Tank Unit: Flanged end connection

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

O-ring / Flanges: other available on request.

| DLT | 060 | ZV | |
|-----------------|----------|----------|-----------|
| Stainless Steel | S | ANSI 150 | A1 |
| Aluminium | A | PN10 | G1 |
| | | PN16 | H1 |



Dust Caps: Tank Adapter

Protect the Tank Adapter and its valve, against the invasion of dirt, water and other contaminates with the KLAW range of dustcaps.

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

| Material | Seal |
|-------------------------------|-----------------------|
| 1" DN20 to DN25 Ø56 mm | |
| 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.



| Material | Size inch | Dust Cap: Tank Adapter |
|-----------------|-----------|------------------------|
| Rubber | 2 | DT020REC001 |
| Stainless Steel | 2 | DT020SEC001 |
| Rubber | 2 1/2 | DT025REC001 |
| Rubber | 3 | DT030REC001 |
| Stainless Steel | 3 | DT030SEC001 |
| Rubber | 4 | DT040REC001 |
| Stainless Steel | 4 | DT040SEC001 |
| Rubber | 6 | DT060REC001 |
| Composite | 6 | DT060MEC001 |

Dust Plugs: Hose

Protect the hose and its valve against the invasion of dirt, water and other contaminants with the KLAW range of hose dust plugs.

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

| Material | Seal |
|-------------------------------|-----------------------|
| 1" DN20 to DN25 Ø56 mm | |
| 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®) |



| Material | Size inch | Dust Cap: Hose Dust Plug |
|-----------------|-----------|--------------------------|
| Rubber | 2 | DH020REC001 |
| Stainless Steel | 2 | DH020SEC001 |
| Rubber | 2 1/2 | DH025REC001 |
| Rubber | 3 | DH030REC001 |
| Stainless Steel | 3 | DH030SEC001 |
| Rubber | 4 | DH040REC001 |
| Stainless Steel | 4 | DH040SEC001 |
| Rubber | 6 | DH060REC001 |
| Composite | 6 | DH060MEC001 |

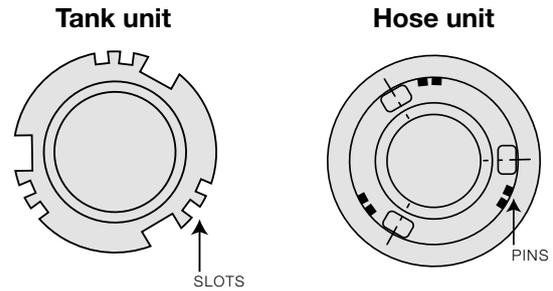
Selectivity

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.

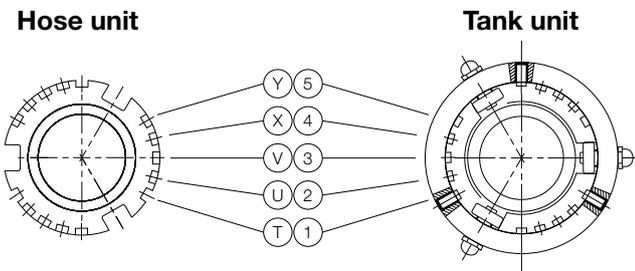
A number of selectivity positions are possible depending on coupling size.



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.

1" (Ø56 mm)



Selectivity system: KLAW

Compatible with TODO, Avery Hardoll and Mann-Tek.

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

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

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

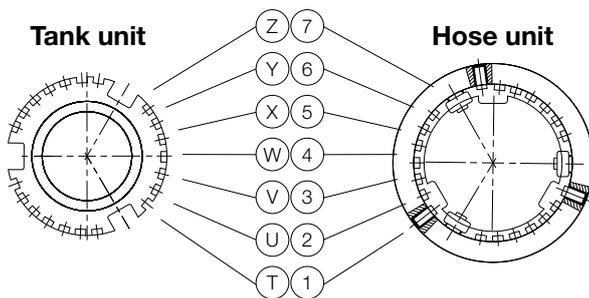
With 5 options

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

With 10 options

| | | | | |
|----|----|----|----|----|
| 12 | 13 | 14 | 15 | 23 |
| 24 | 25 | 34 | 35 | 45 |

2" (Ø70 mm)



Selectivity system: KLAW

Compatible with TODO, Avery Hardoll and 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 |
|---|---|---|---|---|---|---|

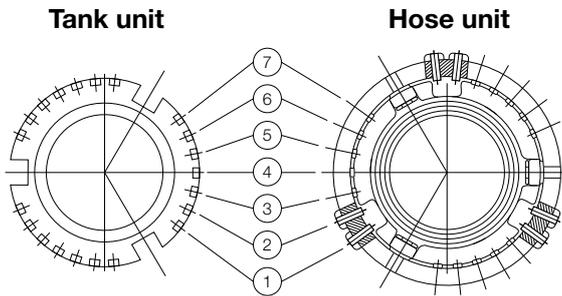
Pin & slot position

| | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|
| 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 | |



Selectivity

3" (Ø119 mm)



Selectivity system: KLAW

Compatible with TODO, Avery Hardoll and Mann-Tek.

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

NATO STANAG 3756

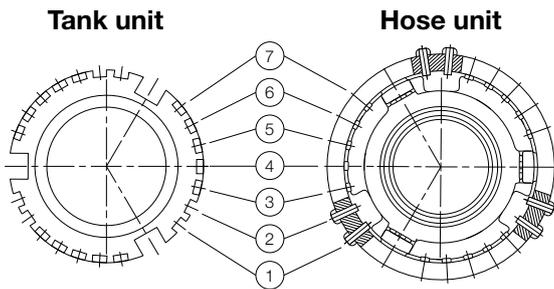
| Product / Media | Position |
|-----------------|----------|
| Acrylonite | P (36) |
| Ethylene oxide | M (34) |
| Propylene | N (35) |

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)



Selectivity system: KLAW

Compatible with TODO, Avery Hardoll and Mann-Tek.

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

NATO STANAG 3756

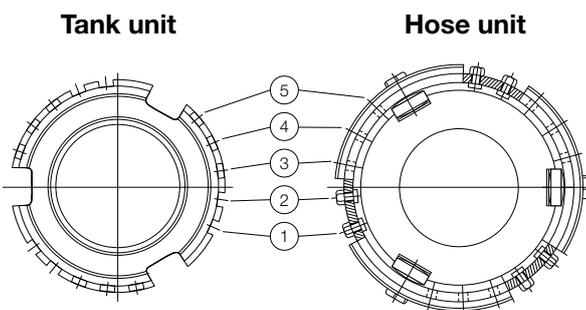
| Product / Media | Position |
|-----------------|----------|
| Acrylonite | 3 6 |
| Ethylene oxide | 3 4 |
| Propylene | 3 5 |

Selectivity positions for Acrylonite, Ethylene oxide and Propylene oxide for 4".

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 and 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 |



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.

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IMPORTANT:

Specification: KLAW recommends that all information and data are confirmed with the KLAW Technical Department before specifying, ordering or commissioning.

Usage: Please refer to the correct Installation and Maintenance Manual for information or instruction regarding the installation, handling, operation, maintenance and servicing of any product mentioned in this literature. Further advice is available from the KLAW Technical Department.

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