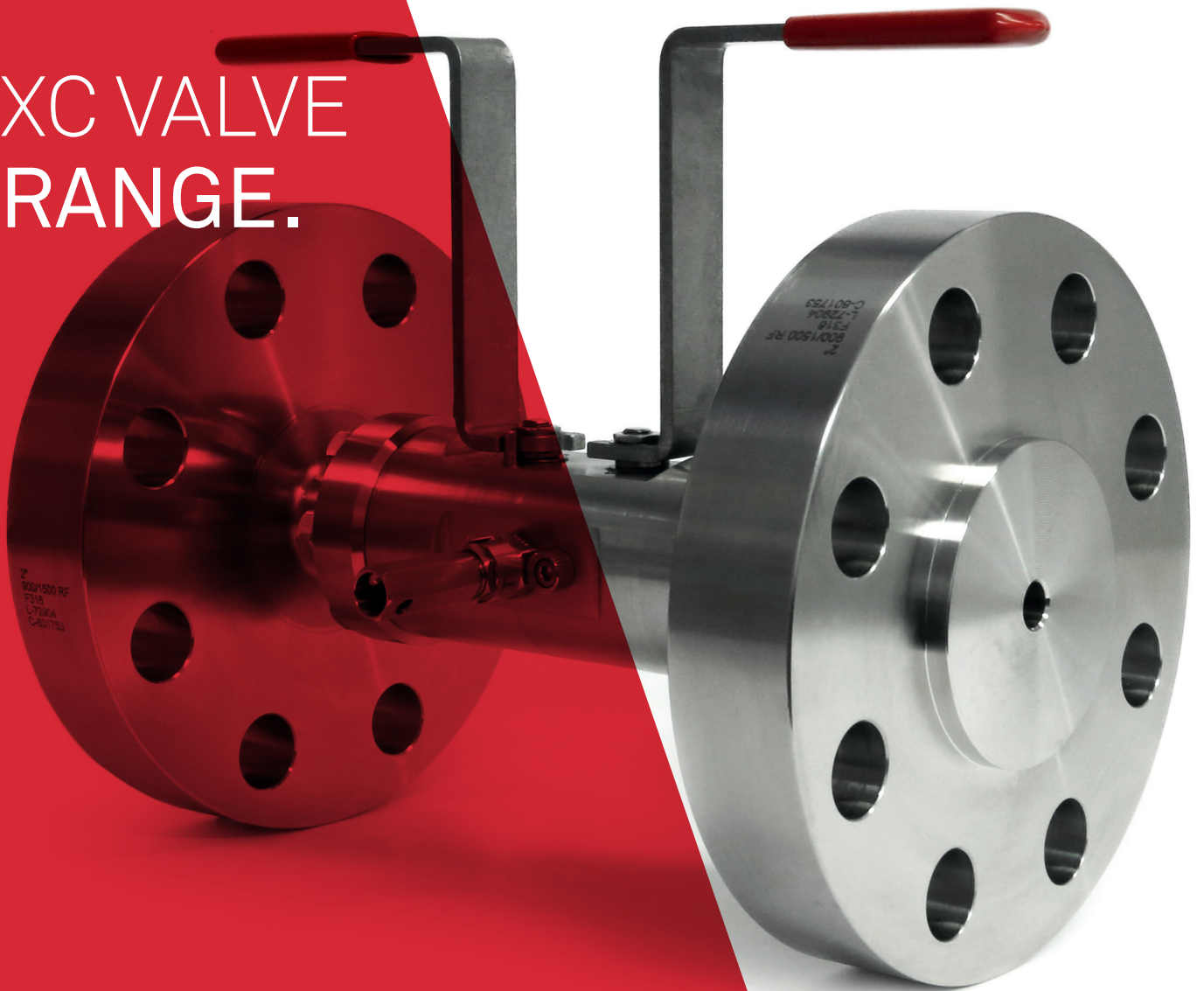


XC VALVE RANGE.



ALCO VALVES DELIVER TRUSTED
SOLUTIONS FOR CRITICAL
APPLICATIONS.





ALCO VALVES GROUP LTD

The Alco Valves Group has been delivering quality, precision and excellence for its customers since 1977. In that time the business has evolved into the choice supplier of technically advanced valve products and solutions for critical applications across the globe.

The Alco Valves Group's extensive range of valves and accessories are precision-made to fit the customer's requirements using advanced machinery and manufacturing processes. Quality assurance is of the utmost importance to Alco and the group holds a number of internationally recognised quality standards certifications and management systems.

The Alco Valves Group now operates in over thirty countries worldwide with office locations in the UK, UAE, Malaysia, Australia and USA. In 2016 the group developed its flagship headquarters in Yorkshire, UK, establishing it as a state-of-the-art production and technology centre. This is where innovation comes to life and products are designed, tested and manufactured using the latest industry-led technology.

This dedication to operational excellence runs throughout the business, from customer service right through to the safety and reliability of products. The Alco Valves Group is committed to continual improvement and infrastructure investment as it aspires to be the most technologically advanced valve provider in the world.

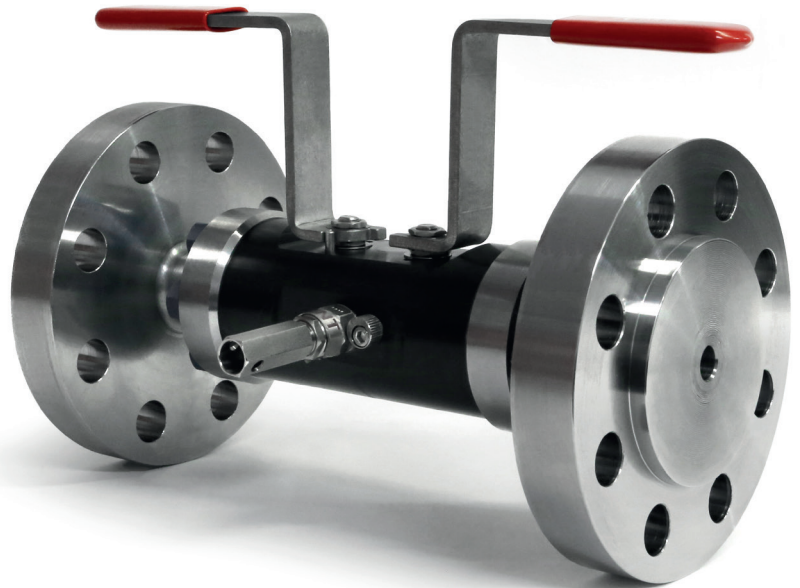
40 YEARS OF
MANUFACTURING
EXCELLENCE

ALCO HI-TEK XC RANGE

PATENT PENDING



XC Stocked Cartridge



XC Finished Construction

High structural integrity valves lock off fluid securely for complex operations, safely and reliably.

Our XC Range features seats manufactured from PEEK thermoplastic to provide a dependable lifespan in the toughest services. Available with a multitude of construction materials and precision engineered connections the XC Range is manufactured from the following Western European sourced materials;

Available Construction

A182 F316/F316L

A182 F51

A350 LF2 CL1

Ball Valve Trim

A479 UNS S31803
(Duplex)

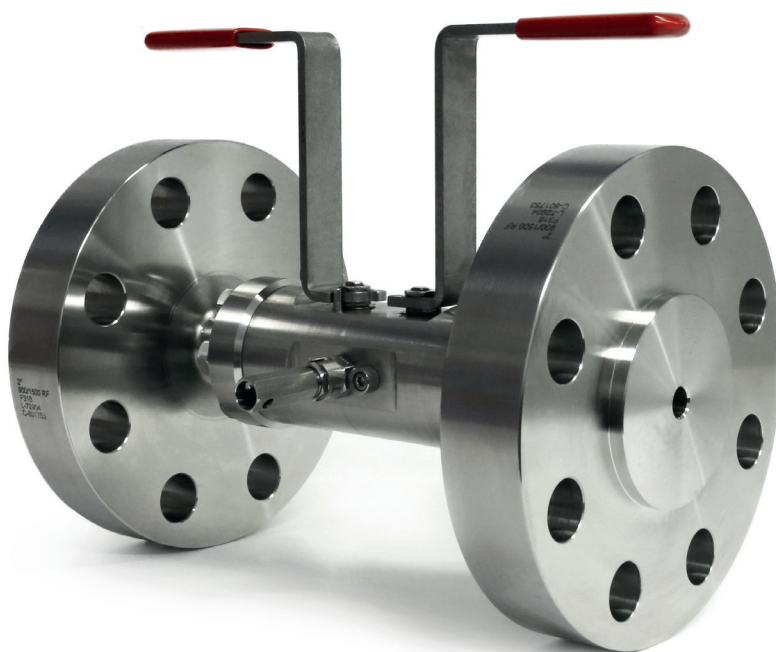
Available Bolting[†]

A320 GrL7M/A194 Gr7M

A193 GrB8MCL2/A194 Gr8MA



XC Stocked Cartridge



XC Finished Construction

Component Features

Designed and manufactured in accordance with ASME standards

† Available with process flanges to suit any specific requirement

Manufactured and tested before the point of order placement

Pressure ratings from Class 150 to Class 2500

Anti-static to ATEX requirements and cavity relieved as standard

Compact design for cost efficiency and weight

Service temperatures from -46°C to 200°C

Features 2 high performance floating pattern ball valves and a venting needle valve c/w NPT female vent

10% NDT batch sampled as standard

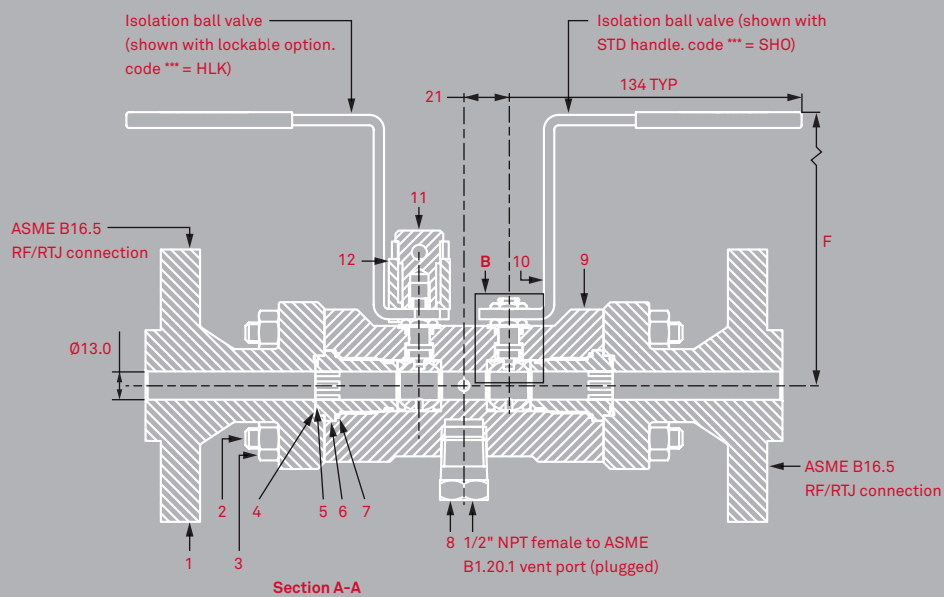
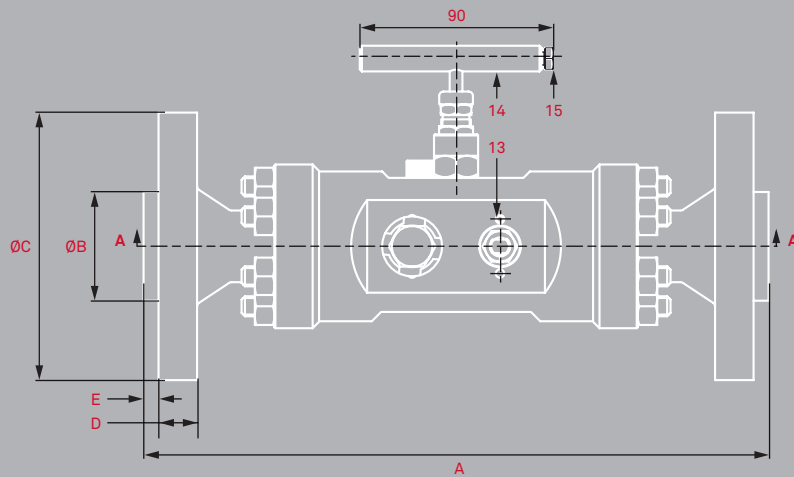


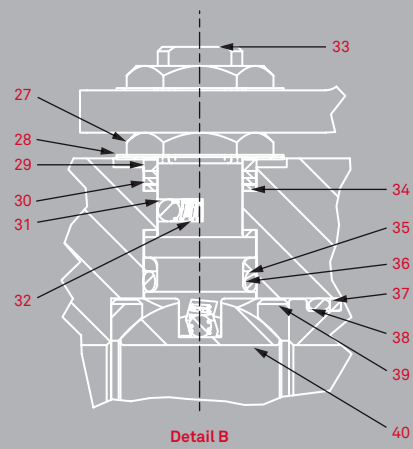
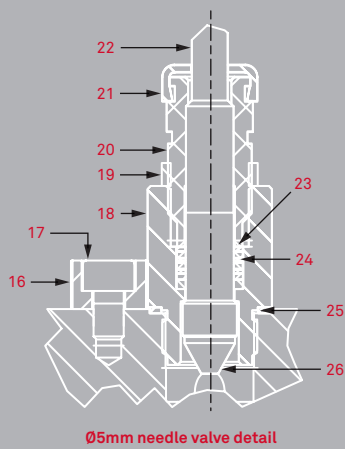
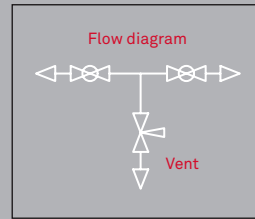
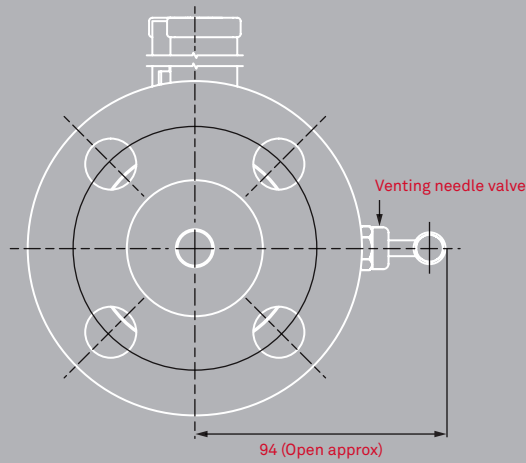
† Includes: ASME RT J & RF | API RT J | Hub Ends | Threaded Ends | Butt/Socket Weld End.

XC Ø13 DBB Valve Manifold

Qualifications

- Fire safe to ISO 10497
- Fugitive emission tight ball valve design
- Class A tight to the CO2 level between -29°C > 40°C at pressure of 431 bar (6250 psi) and below
- Class B tight to the CO1 level between -46°C > 100°C at pressure of 431 bar (6250 psi) and below
- API 6A PR2 qualified ball valve design at class 2500
- Endurance tested to 1200 operational cycles at class 2500 in accordance with API 6A criteria
- Ball valves type Approval Tested in accordance with SPE 77-300 at class 2500 + class 600 between +150°C and -29°C





Components Key

| Item No. | Description | Material | Quantity |
|----------|----------------------|-----------------|----------|
| 1 | BOLT ON FLANGE | # | 2 |
| 2 | STUD | * | 12 |
| 3 | HEX NUT | * | 12 |
| 4 | BODY SEAL | GRAPHITE | 2 |
| 5 | O-RING | ENDURA V91A | 2 |
| 6 | BODY INSERT | A479 UNS S31803 | 2 |
| 7 | BODY SEAL | GRAPHITE | 2 |
| 8 | 1/2" N.PT BLANK PLUG | † | 1 |
| 9 | BODY | # | 1 |
| 10 | VALVE HANDLE (3) | UNS S31600 | 2 |
| 11 | LOCKING PIN | UNS S31600 | 1 |
| 12 | LOCKING COLLAR | UNS S31600 | 1 |
| 13 | STOP PIN | UNS S31600 | 2 |
| 14 | EXTENDED "T" HANDLE | UNS S31600 | 1 |
| 15 | HEX CAP SCREW | A4 ST/ST | 1 |
| 16 | LOCKING CAM | UNS S31600 | 1 |
| 17 | SHC SCREW | A4 ST/ST | 1 |
| 18 | BONNET HOUSING | ‡ | 1 |
| 19 | GLAND LOCKNUT | UNS S31600 | 1 |
| 20 | GLAND ADJUSTER | UNS S31600 | 1 |

| Item No. | Description | Material | Quantity |
|----------|---------------------|-----------------|----------|
| 21 | DUST CAP | PVC | 1 |
| 22 | NEEDLE STEM | A479 UNS S31803 | 1 |
| 23 | PACKING WASHER | RTFE | 2 |
| 24 | GLAND PACKING | GRAPHITE | 3 |
| 25 | BONNET SEAL | UNS S31600 | 1 |
| 26 | NEEDLE VALVE TIP | A479 UNS S31803 | 1 |
| 27 | 3/8" UNF HALF NUT | A4 ST/ST | 3 |
| 28 | BELLEVILLE WASHER | ST/ST | 5 |
| 29 | SPACER | UNS S31600 | 2 |
| 30 | ANTI-EXTRUSION RING | PEEK | 4 |
| 31 | 2.5mm BALL | B446 UNS N06625 | 4 |
| 32 | ANTI-STATIC SPRING | INCONEL X750 | 4 |
| 33 | STEM | A479 UNS S31803 | 2 |
| 34 | FIRE SAFE SEAL | GRAPHITE | 4 |
| 35 | BACK-UP RING | PEEK | 2 |
| 36 | O-RING | ENDURA V91A | 2 |
| 37 | BACK-UP RING | PEEK | 2 |
| 38 | O-RING | ENDURA V91A | 2 |
| 39 | SEAT | PEEK | 4 |
| 40 | BALL | A890-CD3MN | 2 |

= BODY/FLANGE MATERIAL (S = F316, L = LF2, U = F51)
 * = BOLTING MATERIAL (S & U = B8M/8MA L = L7M/7M)

† = 1/2" VENT PLUG MATERIAL (S & L = A479 UNS S31600, U = A479 UNS S31803)
 ‡ = BONNET HOUSING MATERIAL (S & L = A479 UNS S31600, U = A479 UNS S31803)

ALCO XC Ø13mm Bore

TABLE 1

RF/RTJ Flange x Flange/NPT

| Flange size (in) | Class rating | Part No. | A - RF | A - RTJ | A 1/2" NPT - RF | A 1/2" NPT - RTJ | ØB - RF | ØB - RTJ | ØC | D | E - RF | E - RTJ | F | Nominal Mass (kg) |
|------------------|--------------|--------------------------|--------|---------|-----------------|------------------|---------|----------|-----|------|--------|---------|-----|-------------------|
| 1/2" | 150 | XC-13#-04AR‡04AR‡-B*-*** | 270 | N/A | 265 | N/A | 34.9 | N/A | 90 | 10.1 | 2.0 | N/A | 90 | 7 |
| 1/2" | 300 | XC-13#-04BR‡04BR‡-B*-*** | 276 | 282 | 268 | 271 | 34.9 | 51.1 | 95 | 13.2 | 2.0 | 5.5 | 90 | 8 |
| 1/2" | 600 | XC-13#-04CR‡04CR‡-B*-*** | 288 | 286 | 274 | 273 | 34.9 | 51.1 | 95 | 14.8 | 7.0 | 5.5 | 90 | 8 |
| 1/2" | 900/1500 | XC-13#-04ER‡04ER‡-B*-*** | 322 | 320 | 291 | 290 | 34.9 | 60.6 | 120 | 22.8 | 7.0 | 6.4 | 125 | 10 |
| 1/2" | 2500 | XC-13#-04FR‡04FR‡-B*-*** | 324 | 322 | 292 | 291 | 34.9 | 65.1 | 135 | 30.7 | 7.0 | 6.4 | 125 | 13 |
| 3/4" | 150 | XC-13#-06AR‡06AR‡-B*-*** | 272 | N/A | 266 | N/A | 42.9 | N/A | 100 | 11.7 | 2.0 | N/A | 90 | 8 |
| 3/4" | 300 | XC-13#-06BR‡06BR‡-B*-*** | 288 | 296 | 274 | 278 | 42.9 | 63.6 | 115 | 14.8 | 2.0 | 6.4 | 125 | 9 |
| 3/4" | 600 | XC-13#-06CR‡06CR‡-B*-*** | 300 | 298 | 280 | 279 | 42.9 | 63.6 | 115 | 16.4 | 7.0 | 6.4 | 125 | 9 |
| 3/4" | 900/1500 | XC-13#-06ER‡06ER‡-B*-*** | 324 | 322 | 292 | 291 | 42.9 | 66.6 | 130 | 25.9 | 7.0 | 6.4 | 125 | 11 |
| 3/4" | 2500 | XC-13#-06FR‡06FR‡-B*-*** | 328 | 326 | 294 | 293 | 42.9 | 73.1 | 140 | 32.3 | 7.0 | 6.4 | 125 | 14 |
| 1" | 150 | XC-13#-08AR‡08AR‡-B*-*** | 276 | 284 | 268 | 272 | 50.8 | 63.6 | 110 | 13.2 | 2.0 | 6.4 | 125 | 8 |
| 1" | 300 | XC-13#-08BR‡08BR‡-B*-*** | 278 | 286 | 269 | 273 | 50.8 | 70.1 | 125 | 16.4 | 2.0 | 6.4 | 125 | 9 |
| 1" | 600 | XC-13#-08CR‡08CR‡-B*-*** | 292 | 290 | 276 | 275 | 50.8 | 70.1 | 125 | 18.0 | 7.0 | 6.4 | 125 | 10 |
| 1" | 900/1500 | XC-13#-08ER‡08ER‡-B*-*** | 324 | 322 | 292 | 291 | 50.8 | 71.6 | 150 | 29.1 | 7.0 | 6.4 | 125 | 14 |
| 1" | 2500 | XC-13#-08FR‡08FR‡-B*-*** | 336 | 336 | 298 | 298 | 50.8 | 82.6 | 160 | 35.5 | 7.0 | 6.4 | 125 | 17 |
| 1 1/2" | 150 | XC-13#-12AR‡12AR‡-B*-*** | 272 | 280 | 266 | 270 | 73.0 | 82.6 | 125 | 16.4 | 2.0 | 6.4 | 125 | 9 |
| 1 1/2" | 300 | XC-13#-12BR‡12BR‡-B*-*** | 292 | 300 | 276 | 280 | 73.0 | 90.6 | 155 | 19.6 | 2.0 | 6.4 | 125 | 12 |
| 1 1/2" | 600 | XC-13#-12CR‡12CR‡-B*-*** | 308 | 306 | 284 | 283 | 73.0 | 90.6 | 155 | 22.8 | 7.0 | 6.4 | 125 | 13 |
| 1 1/2" | 900/1500 | XC-13#-12ER‡12ER‡-B*-*** | 336 | 334 | 298 | 297 | 73.0 | 92.1 | 180 | 32.3 | 7.0 | 6.4 | 125 | 19 |
| 1 1/2" | 2500 | XC-13#-12FR‡12FR‡-B*-*** | 340 | 342 | 300 | 301 | 73.0 | 114.1 | 205 | 45.0 | 7.0 | 7.9 | 160 | 28 |
| 2" | 150 | XC-13#-16AR‡16AR‡-B*-*** | 272 | 280 | 266 | 270 | 92.1 | 102.1 | 150 | 18.0 | 2.0 | 6.4 | 125 | 11 |
| 2" | 300 | XC-13#-16BR‡16BR‡-B*-*** | 278 | 290 | 269 | 275 | 92.1 | 108.1 | 165 | 21.2 | 2.0 | 7.9 | 125 | 13 |
| 2" | 600 | XC-13#-16CR‡16CR‡-B*-*** | 298 | 300 | 279 | 280 | 92.1 | 108.1 | 165 | 25.9 | 7.0 | 7.9 | 125 | 15 |
| 2" | 900/1500 | XC-13#-16ER‡16ER‡-B*-*** | 322 | 324 | 291 | 292 | 92.1 | 124.1 | 215 | 38.6 | 7.0 | 7.9 | 160 | 27 |
| 2" | 2500 | XC-13#-16FR‡16FR‡-B*-*** | 348 | 350 | 304 | 305 | 92.1 | 133.1 | 235 | 51.4 | 7.0 | 7.9 | 160 | 38 |

Configuration Metric / mm

= BODY/FLANGE MATERIAL (S=F316, L=LF2, U=F51)

* = BOLTING MATERIAL (2FC=L7M, 8ST=B8M)

‡ = FLANGE TYPE (F=RF, J=RTJ)

*** = HANDLE OPTIONS (SHO=STANDARD, HLK=HANDLE LOCKABLE)

TABLE 2

Flange x NPT

XC-13#-04AR‡##02-B*-***
XC-13#-04BR‡##02-B*-***

NPT CONFIGURATIONS

*PLEASE NOTE: PART CODES VARY
DEPENDING ON THE CONFIGURATION
OF THE VALVE. AS SHOWN TO THE LEFT.

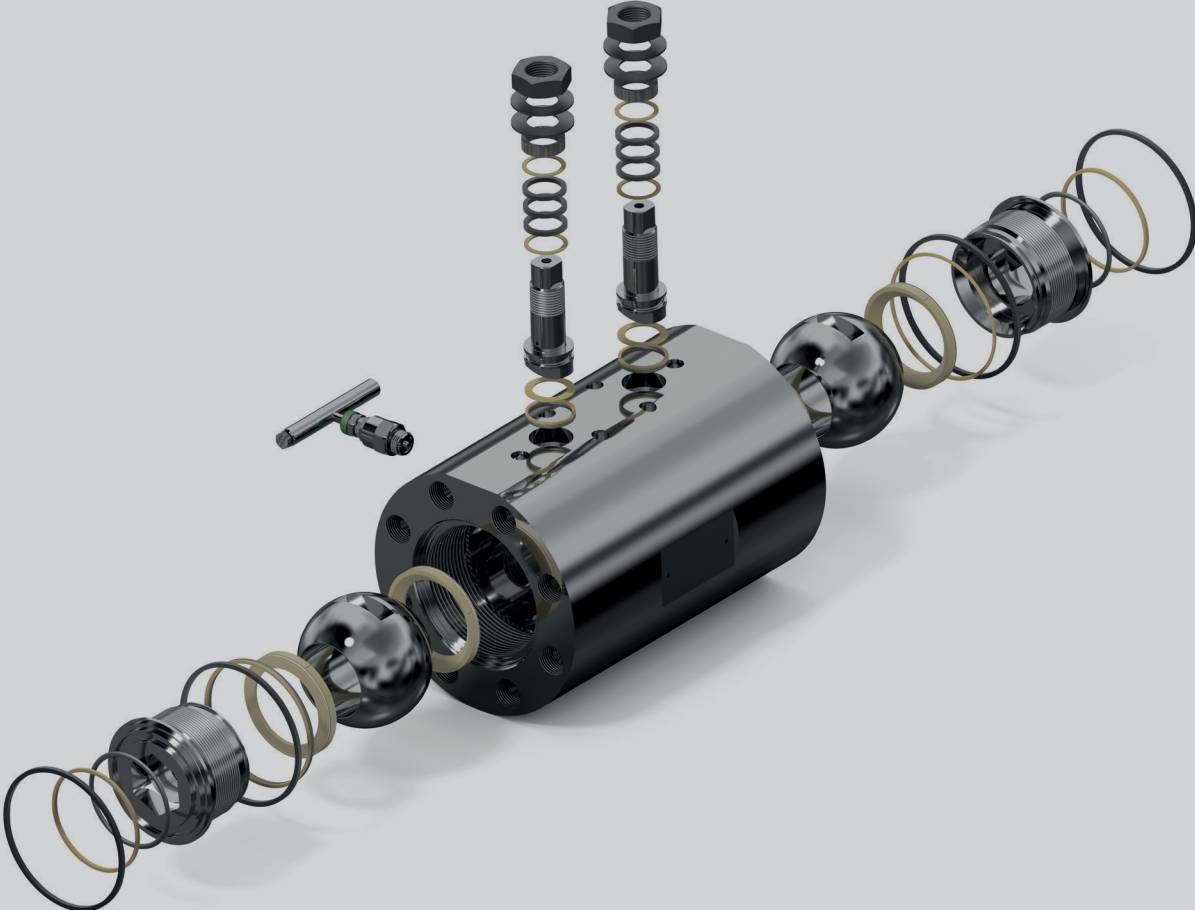
= NPT SIZE (03=3/8", 04=1/2", 06=3/4", 08=1")

TABLE 3

| Size | RF | RTJ |
|------|-----|-----|
| 3/8" | -26 | -26 |
| 3/4" | +6 | +6 |
| 1" | +16 | +16 |

IN ORDER TO OBTAIN OVERALL LENGTH VALUES (A) FOR 3/8", 3/4" AND 1" NPT CONNECTIONS, THE VALUES IN TABLE 3 NEED TO BE ADDED OR SUBTRACTED FROM THE OVERALL LENGTH (A). FOR EXAMPLE, TO CALCULATE THE OVERALL LENGTH FOR AN RF FLANGE x 3/8" FEMALE NPT WE SUBTRACT 26 FROM THE 1/2" NPT - RF VALUES IN TABLE 1.

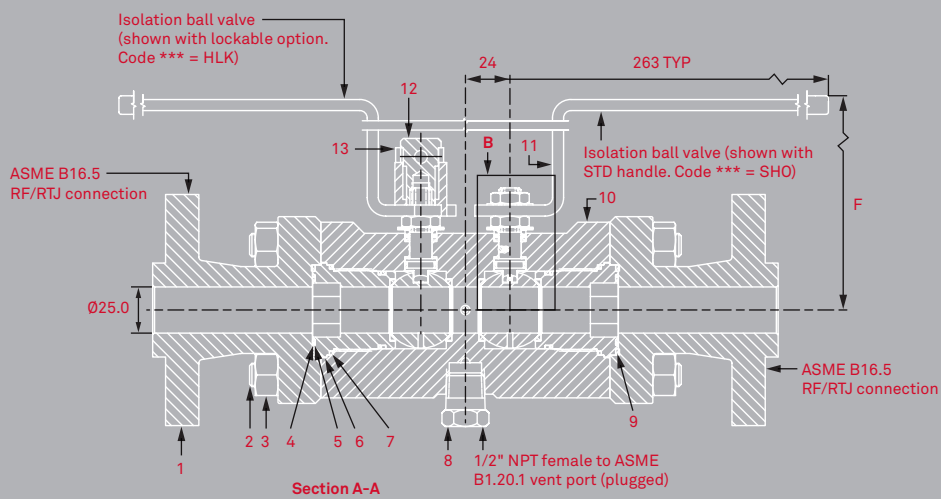
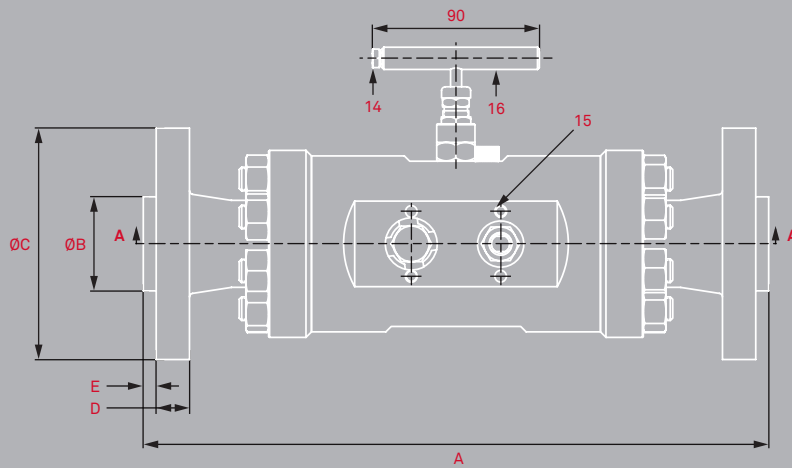
XC Construction

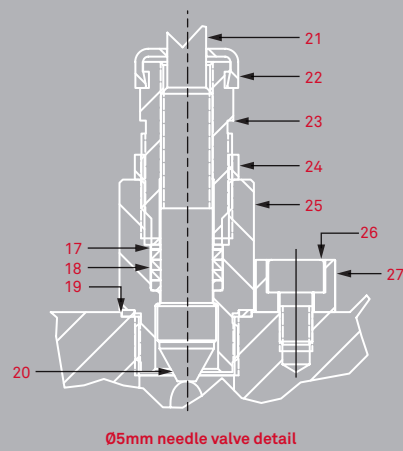
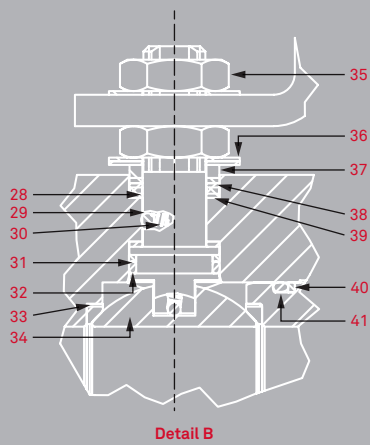
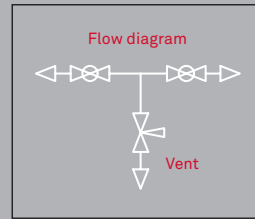
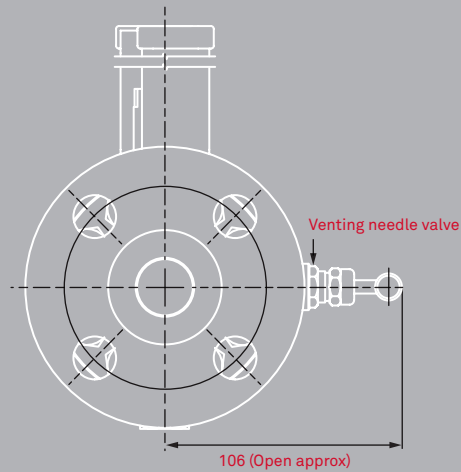


XC Ø19 & Ø25 DBB Valve Manifold

Qualifications

- Fire safe to ISO 10497
- Fugitive emission tight ball valve design
- Class A tight to the CO2 level between -29°C > 40°C at pressure of 431 bar (6250 psi) and below
- Class B tight to the CO1 level between -46°C > 100°C at pressure of 431 bar (6250 psi) and below
- API 6A PR2 qualified ball valve design at class 2500
- Endurance tested to 1200 operational cycles at class 2500 in accordance with API 6A criteria
- Type Approval Tested in accordance with SPE 77-300 at class 2500 + class 600 between +150°C and -29°C





Components Key

| Item No. | Description | Material | Quantity | Item No. | Description | Material | Quantity |
|----------|----------------------|-----------------|----------|----------|---------------------|-----------------|----------|
| 1 | BOLT ON FLANGE | # | 2 | 22 | DUST CAP | PVC | 1 |
| 2 | STUD | * | 12 - 16 | 23 | GLAND ADJUSTER | UNS S31600 | 1 |
| 3 | HEX NUT | * | 12 - 16 | 24 | GLAND LOCKNUT | UNS S31600 | 1 |
| 4 | O-RING | ENDURA V91A | 2 | 25 | BONNET HOUSING | ‡ | 1 |
| 5 | BACK-UP RING | PEEK | 2 | 26 | SHC SCREW | A4 ST/ST | 1 |
| 6 | BODY INSERT | A479 UNS S31803 | 2 | 27 | LOCKING CAM | UNS S31600 | 1 |
| 7 | BODY SEAL | GRAPHITE | 2 | 28 | STEM | A479 UNS S31803 | 2 |
| 8 | 1/2" N.PT BLANK PLUG | † | 1 | 29 | 2.5mm BALL | B446 UNS N06625 | 4 |
| 9 | BODY SEAL | GRAPHITE | 2 | 30 | ANTI-STATIC SPRING | INCONEL X750 | 4 |
| 10 | BODY | # | 1 | 31 | BACK-UP RING | PEEK | 2 |
| 11 | VALVE HANDLE (2) | UNS S31600 | 2 | 32 | O-RING | ENDURA V91A | 2 |
| 12 | LOCKING PIN | UNS S31600 | 1 | 33 | SEAT | PEEK | 4 |
| 13 | LOCKING COLLAR | UNS S31600 | 1 | 34 | BALL | B446 UNS N06625 | 2 |
| 14 | HEX CAP SCREW | A4 ST/ST | 1 | 35 | HEX NUT | A4 ST/ST | 3 |
| 15 | STOP PIN | UNS S31600 | 2 | 36 | BELLEVILLE WASHER | ST/ST | 5 |
| 16 | EXTENDED "T" HANDLE | UNS S31600 | 1 | 37 | SPACER | UNS S31600 | 2 |
| 17 | PACKING WASHER | RTFE | 2 | 38 | ANTI-EXTRUSION RING | PEEK | 4 |
| 18 | GLAND PACKING | GRAPHITE | 3 | 39 | GLAND PACKING | GRAPHITE | 4 |
| 19 | BONNET SEAL | UNS S31600 | 1 | 40 | BACK-UP RING | PEEK | 2 |
| 20 | NEEDLE VALVE TIP | A479 UNS S31803 | 1 | 41 | O-RING | ENDURA V91A | 2 |
| 21 | NEEDLE STEM | A479 UNS S31803 | 1 | | | | |

= BODY/FLANGE MATERIAL (S=F316, L=LF2, U=F51)
 * = BOLTING MATERIAL (S & U =B8M/8MA L =L7M/7M)

† = 1/2" VENT PLUG MATERIAL (S & L =A479 UNS S31600, U=A479 UNS S31803)
 ‡ = BONNET HOUSING MATERIAL (S & L =A479 UNS S31600, U=A479 UNS S31803)

ALCO XC Ø19mm Bore

TABLE 1
RF/RTJ Flange x Flange/NPT

| Flange size (in) | Class rating | Part No. | A - RF | A - RTJ | A 3/4" NPT - RF | A 3/4" NPT - RTJ | ØB - RF | ØB - RTJ | ØC | D | E - RF | E - RTJ | F | Nominal Mass (kg) |
|------------------|--------------|--------------------------|--------|---------|-----------------|------------------|---------|----------|-----|------|--------|---------|-----|-------------------|
| 3/4" | 150 | XC-19#-06AR‡06AR‡-B*-*** | 291 | N/A | 293 | N/A | 42.9 | N/A | 100 | 11.7 | 2.0 | N/A | 97 | 10 |
| 3/4" | 300 | XC-19#-06BR‡06BR‡-B*-*** | 305 | 315 | 300 | 305 | 42.9 | 63.6 | 115 | 14.8 | 2.0 | 6.4 | 97 | 11 |
| 3/4" | 600 | XC-19#-06CR‡06CR‡-B*-*** | 319 | 317 | 307 | 306 | 42.9 | 63.6 | 115 | 16.4 | 7.0 | 6.4 | 97 | 12 |
| 3/4" | 900/1500 | XC-19#-06ER‡06ER‡-B*-*** | 347 | 345 | 321 | 320 | 42.9 | 66.6 | 130 | 25.9 | 7.0 | 6.4 | 132 | 14 |
| 3/4" | 2500 | XC-19#-06FR‡06FR‡-B*-*** | 349 | 349 | 322 | 322 | 42.9 | 73.1 | 140 | 32.3 | 7.0 | 6.4 | 132 | 16 |
| 1" | 150 | XC-19#-08AR‡08AR‡-B*-*** | 295 | 303 | 295 | 299 | 50.8 | 63.6 | 110 | 13.2 | 2.0 | 6.4 | 97 | 11 |
| 1" | 300 | XC-19#-08BR‡08BR‡-B*-*** | 309 | 317 | 302 | 306 | 50.8 | 70.1 | 125 | 16.4 | 2.0 | 6.4 | 132 | 12 |
| 1" | 600 | XC-19#-08CR‡08CR‡-B*-*** | 321 | 321 | 308 | 308 | 50.8 | 70.1 | 125 | 18.0 | 7.0 | 6.4 | 132 | 13 |
| 1" | 900/1500 | XC-19#-08ER‡08ER‡-B*-*** | 355 | 353 | 325 | 324 | 50.8 | 71.6 | 150 | 29.1 | 7.0 | 6.4 | 132 | 17 |
| 1" | 2500 | XC-19#-08FR‡08FR‡-B*-*** | 357 | 357 | 326 | 326 | 50.8 | 82.6 | 160 | 35.5 | 7.0 | 6.4 | 132 | 20 |
| 1 1/2" | 150 | XC-19#-12AR‡12AR‡-B*-*** | 291 | 299 | 293 | 297 | 73.0 | 82.6 | 125 | 16.4 | 2.0 | 6.4 | 132 | 12 |
| 1 1/2" | 300 | XC-19#-12BR‡12BR‡-B*-*** | 309 | 317 | 302 | 306 | 73.0 | 90.6 | 155 | 19.6 | 2.0 | 6.4 | 132 | 15 |
| 1 1/2" | 600 | XC-19#-12CR‡12CR‡-B*-*** | 319 | 319 | 307 | 307 | 73.0 | 90.6 | 155 | 22.8 | 7.0 | 6.4 | 132 | 16 |
| 1 1/2" | 900/1500 | XC-19#-12ER‡12ER‡-B*-*** | 351 | 351 | 323 | 323 | 73.0 | 92.1 | 180 | 32.3 | 7.0 | 6.4 | 132 | 22 |
| 1 1/2" | 2500 | XC-19#-12FR‡12FR‡-B*-*** | 369 | 371 | 332 | 333 | 73.0 | 114.1 | 205 | 45.0 | 7.0 | 7.9 | 167 | 31 |
| 2" | 150 | XC-19#-16AR‡16AR‡-B*-*** | 287 | 297 | 291 | 296 | 92.1 | 102.1 | 150 | 18.0 | 2.0 | 6.4 | 132 | 14 |
| 2" | 300 | XC-19#-16BR‡16BR‡-B*-*** | 295 | 307 | 295 | 301 | 92.1 | 108.1 | 165 | 21.2 | 2.0 | 7.9 | 132 | 16 |
| 2" | 600 | XC-19#-16CR‡16CR‡-B*-*** | 315 | 317 | 305 | 306 | 92.1 | 108.1 | 165 | 25.9 | 7.0 | 7.9 | 132 | 18 |
| 2" | 900/1500 | XC-19#-16ER‡16ER‡-B*-*** | 345 | 347 | 320 | 321 | 92.1 | 124.1 | 215 | 38.6 | 7.0 | 7.9 | 167 | 29 |
| 2" | 2500 | XC-19#-16FR‡16FR‡-B*-*** | 363 | 365 | 329 | 330 | 92.1 | 133.1 | 235 | 51.4 | 7.0 | 7.9 | 167 | 41 |

Configuration Metric / mm

= BODY/FLANGE MATERIAL (S=F316, L=LF2, U=F51)
* = BOLTING MATERIAL (2FC=L7M, 8ST=B8M)

‡ = FLANGE TYPE (F=RF, J=RTJ)
*** = HANDLE OPTIONS (SHO=STANDARD, HLK=HANDLE LOCKABLE)

TABLE 2

| Flange x NPT | NPT CONFIGURATIONS |
|-------------------------|--|
| XC-19#-06AR‡##02-B*-*** | *PLEASE NOTE: PART CODES VARY |
| XC-19#-06BR‡##02-B*-*** | DEPENDING ON THE CONFIGURATION OF THE VALVE. AS SHOWN TO THE LEFT. |

= NPT SIZE (04= 1/2", 06=3/4", 08=1", 10= 1 1/4")

TABLE 3

| Size | RF | RTJ |
|--------|-----|-----|
| 1/4" | -21 | -21 |
| 1" | +10 | +10 |
| 1 1/4" | +19 | +19 |

IN ORDER TO OBTAIN OVERALL LENGTH VALUES (A) FOR 1" AND 1 1/4" NPT CONNECTIONS, THE VALUES IN **TABLE 3** NEED TO BE ADDED OR SUBTRACTED FROM THE OVERALL LENGTH (A). FOR EXAMPLE, TO CALCULATE THE OVERALL LENGTH FOR AN **RF FLANGE x 1" FEMALE NPT** WE ADD 10 TO THE 3/4" NPT - RF VALUES IN **TABLE 1**.

ALCO XC Ø25mm Bore

TABLE 1
RF/RTJ Flange x Flange/NPT

| Flange size (in) | Class rating | Part No. | A - RF | A - RTJ | A 1" NPT - RF | A 1" NPT - RTJ | ØB - RF | ØB - RTJ | ØC | D | E - RF | E - RTJ | F | Nominal Mass (kg) |
|------------------|--------------|--------------------------|--------|---------|---------------|----------------|---------|----------|-----|------|--------|---------|-----|-------------------|
| 1" | 150 | XC-25#-08AR‡08AR‡-B*-*** | 310 | 320 | 316 | 321 | 50.8 | 63.6 | 110 | 13.2 | 2.0 | 6.4 | 97 | 14 |
| 1" | 300 | XC-25#-08BR‡08BR‡-B*-*** | 326 | 334 | 324 | 328 | 50.8 | 70.1 | 125 | 16.4 | 2.0 | 6.4 | 147 | 16 |
| 1" | 600 | XC-25#-08CR‡08CR‡-B*-*** | 338 | 338 | 330 | 330 | 50.8 | 70.1 | 125 | 18.0 | 7.0 | 6.4 | 147 | 16 |
| 1" | 900/1500 | XC-25#-08ER‡08ER‡-B*-*** | 370 | 370 | 345 | 346 | 50.8 | 71.6 | 150 | 29.1 | 7.0 | 6.4 | 147 | 20 |
| 1" | 2500 | XC-25#-08FR‡08FR‡-B*-*** | 382 | 380 | 352 | 351 | 50.8 | 82.6 | 160 | 35.5 | 7.0 | 6.4 | 147 | 23 |
| 1 1/2" | 150 | XC-25#-12AR‡12AR‡-B*-*** | 318 | 326 | 320 | 324 | 73.0 | 82.6 | 125 | 16.4 | 2.0 | 6.4 | 147 | 16 |
| 1 1/2" | 300 | XC-25#-12BR‡12BR‡-B*-*** | 326 | 334 | 324 | 328 | 73.0 | 90.6 | 155 | 19.6 | 2.0 | 6.4 | 147 | 18 |
| 1 1/2" | 600 | XC-25#-12CR‡12CR‡-B*-*** | 340 | 340 | 331 | 331 | 73.0 | 90.6 | 155 | 22.8 | 7.0 | 6.4 | 147 | 20 |
| 1 1/2" | 900/1500 | XC-25#-12ER‡12ER‡-B*-*** | 372 | 370 | 347 | 346 | 73.0 | 92.1 | 180 | 32.3 | 7.0 | 6.4 | 147 | 25 |
| 1 1/2" | 2500 | XC-25#-12FR‡12FR‡-B*-*** | 394 | 396 | 358 | 359 | 73.0 | 114.1 | 205 | 45.0 | 7.0 | 7.9 | 147 | 34 |
| 2" | 150 | XC-25#-16AR‡16AR‡-B*-*** | 314 | 322 | 326 | 330 | 92.1 | 102.1 | 150 | 18.0 | 2.0 | 6.4 | 147 | 17 |
| 2" | 300 | XC-25#-16BR‡16BR‡-B*-*** | 320 | 332 | 321 | 335 | 92.1 | 108.1 | 165 | 21.2 | 2.0 | 7.9 | 147 | 19 |
| 2" | 600 | XC-25#-16CR‡16CR‡-B*-*** | 340 | 342 | 339 | 340 | 92.1 | 108.1 | 165 | 25.9 | 7.0 | 7.9 | 147 | 21 |
| 2" | 900/1500 | XC-25#-16ER‡16ER‡-B*-*** | 368 | 370 | 353 | 354 | 92.1 | 124.1 | 215 | 38.6 | 7.0 | 7.9 | 147 | 33 |
| 2" | 2500 | XC-25#-16FR‡16FR‡-B*-*** | 394 | 396 | 366 | 367 | 92.1 | 133.1 | 235 | 51.4 | 7.0 | 7.9 | 197 | 44 |

Configuration Metric / mm

= BODY/FLANGE MATERIAL (S=F316, L=LF2, U=F51)
* = BOLTING MATERIAL (2FC=L7M, 8ST=B8M)

‡ = FLANGE TYPE (F=RF, J=RTJ)
*** = HANDLE OPTIONS (SHO=STANDARD, HLK=HANDLE LOCKABLE)

TABLE 2

| Flange x NPT | NPT CONFIGURATIONS |
|-------------------------|--|
| XC-25#-08AR‡##02-B*-*** | *PLEASE NOTE: PART CODES VARY |
| XC-25#-08BR‡##02-B*-*** | DEPENDING ON THE CONFIGURATION OF THE VALVE. AS SHOWN TO THE LEFT. |

= NPT SIZE (06=3/4", 08=1", 10=1 1/4", 12=1 1/2")

TABLE 3

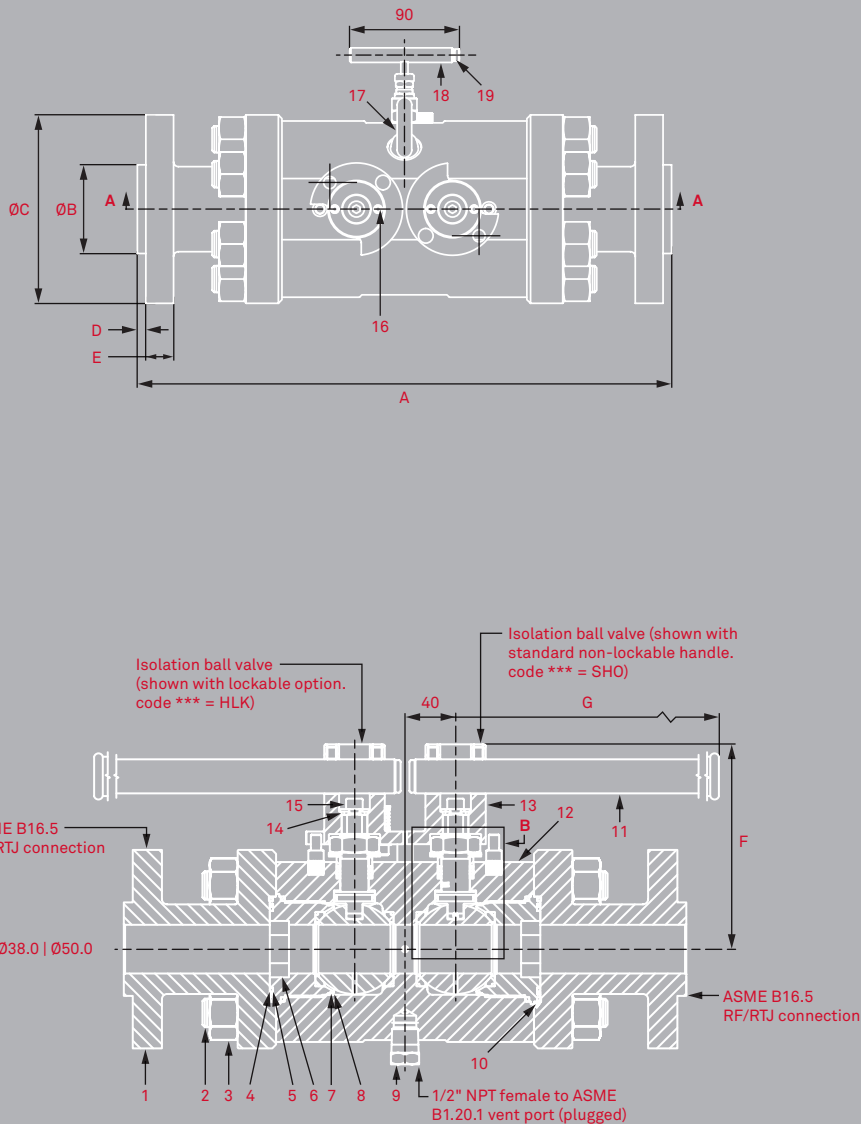
| Size | RF | RTJ |
|--------|-----|-----|
| 3/4" | -39 | -39 |
| 1 1/4" | +8 | +8 |
| 1 1/2" | +18 | +18 |

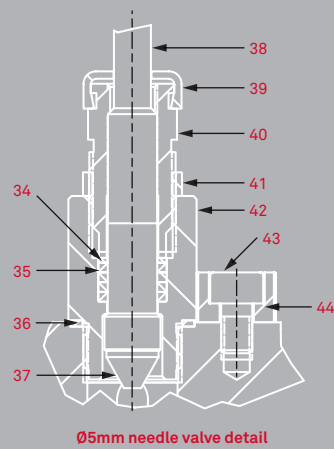
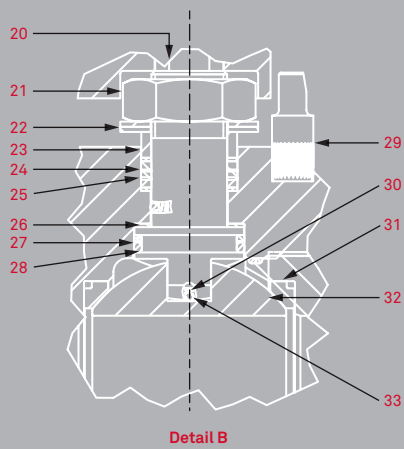
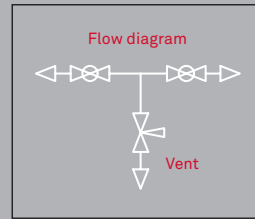
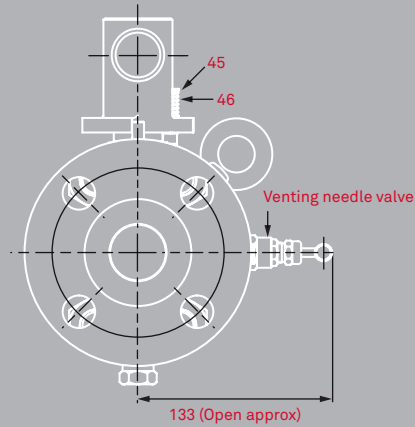
IN ORDER TO OBTAIN OVERALL LENGTH VALUES (A) FOR 1 1/4" AND 1 1/2" NPT CONNECTIONS, THE VALUES IN **TABLE 3** NEED TO BE ADDED OR SUBTRACTED FROM THE OVERALL LENGTH (A). FOR EXAMPLE, TO CALCULATE THE OVERALL LENGTH FOR AN **RF FLANGE x 1 1/4" FEMALE NPT** WE ADD 8 TO THE 1" NPT - RF VALUES IN **TABLE 1**.

XC Ø38 & Ø50 DBB Valve Manifold

Qualifications

- Fire safe to ISO 10497
- Fugitive emission tight ball valve design
- Class A tight to the CO2 level between -29°C > 40°C at pressure of 431 bar (6250 psi) and below
- Class B tight to the CO1 level between -46°C > 100°C at pressure of 431 bar (6250 psi) and below
- API 6A PR2 qualified ball valve design at class 2500
- Endurance tested to 1200 operational cycles at class 2500 in accordance with API 6A criteria
- Type Approval Tested in accordance with SPE 77-300 at class 2500 + class 600 between +150°C and -29°C





Components Key

| Item No. | Description | Material | Quantity |
|----------|----------------------|-----------------|----------|
| 1 | BOLT ON FLANGE | # | 2 |
| 2 | STUD | * | 12 - 16 |
| 3 | NUT | * | 12 - 16 |
| 4 | O-RING | ENDURA V91A | 2 |
| 5 | BACK-UP RING | PEEK | 2 |
| 6 | SEAT RETAINER | A479 UNS S31803 | 2 |
| 7 | BACK-UP RING | PEEK | 2 |
| 8 | O-RING | ENDURA V91A | 2 |
| 9 | 1/2" N.PT BLANK PLUG | † | 1 |
| 10 | BODY SEAL | GRAPHITE | 4 |
| 11 | TB2 HANDLE | UNS S31600 | 2 |
| 12 | VALVE BODY | # | 1 |
| 13 | HANDLE BOSS | UNS S31600 | 2 |
| 14 | HANDLE WASHER | UNS S31600 | 2 |
| 15 | SHC SCREW | A4 ST/ST | 2 |
| 16 | SET SCREW | A4 ST/ST | 4 |
| 17 | LIFTING EYE | A4 ST/ST | 1 |
| 18 | EXTENDED "T" HANDLE | UNS S31600 | 1 |
| 19 | HEX CAP SCREW | A4 ST/ST | 1 |
| 20 | STEM | A479 UNS S31803 | 2 |
| 21 | HEX NUT | A4 ST/ST | 2 |
| 22 | BELLEVILLE WASHER | ST/ST | 4 |
| 23 | SPACER | A4 ST/ST | 2 |

| Item No. | Description | Material | Quantity |
|----------|---------------------|-----------------|----------|
| 24 | ANTI-EXTRUSION RING | PEEK | 4 |
| 25 | STEM SEAL | GRAPHITE | 6 |
| 26 | THRUST WASHER | PEEK | 2 |
| 27 | BACK-UP RING | PEEK | 2 |
| 28 | O-RING | ENDURA V91A | 2 |
| 29 | STOP PIN | UNS S31600 | 2 |
| 30 | ANTI-STATIC SPRING | INCONEL X750 | 4 |
| 31 | SEAT | PEEK | 4 |
| 32 | BALL | A479 UNS S31803 | 2 |
| 33 | 2.5mm BALL | B446 UNS N06625 | 4 |
| 34 | PACKING WASHER | RTFE | 2 |
| 35 | GLAND PACKING | GRAPHITE | 3 |
| 36 | BONNET SEAL | UNS S31600 | 1 |
| 37 | NEEDLE VALVE TIP | A479 UNS S31803 | 1 |
| 38 | NEEDLE STEM | A479 UNS S31803 | 1 |
| 39 | DUST CAP | PVC | 1 |
| 40 | GLAND ADJUSTER | UNS S31600 | 1 |
| 41 | GLAND LOCKNUT | UNS S31600 | 1 |
| 42 | BONNET HOUSING | ‡ | 1 |
| 43 | SHC SCREW | A4 ST/ST | 1 |
| 44 | LOCKING CAM | UNS S31600 | 1 |
| 45 | LOCKING PIN | UNS S31600 | 2 |
| 46 | LOCKING PIN SPRING | UNS S31600 | 2 |

= BODY/FLANGE MATERIAL (S=F316, L=LF2, U=F51)
 * = BOLTING MATERIAL (S & U = B8M/8MA L = L7M/7M)

† = 1/2" VENT PLUG MATERIAL (S & L = A479 UNS S31600, U = A479 UNS S31803)
 ‡ = BONNET HOUSING MATERIAL (S & L = A479 UNS S31600, U = A479 UNS S31803)

ALCO XC Ø38mm Bore

TABLE 1
RF/RTJ Flange x Flange/NPT

| Flange size (in) | Class rating | Part No. | A - RF | A - RTJ | A 1 1/2" NPT - RF | A 1 1/2" NPT - RTJ | ØB - RF | ØB - RTJ | ØC | D | E - RF | E - RTJ | F | G | Nominal Mass (kg) |
|------------------|--------------|--------------------------|--------|---------|-------------------|--------------------|---------|----------|-----|------|--------|---------|-----|-----|-------------------|
| 1 1/2" | 150 | XC-38#-12AR‡12AR‡-B*-*** | 402 | 410 | 417 | 421 | 73.0 | 82.6 | 125 | 16.4 | 2.0 | 6.4 | 160 | 300 | 43 |
| 1 1/2" | 300 | XC-38#-12BR‡12BR‡-B*-*** | 424 | 434 | 428 | 433 | 73.0 | 90.6 | 155 | 19.6 | 2.0 | 6.4 | 160 | 300 | 46 |
| 1 1/2" | 600 | XC-38#-12CR‡12CR‡-B*-*** | 440 | 440 | 436 | 436 | 73.0 | 90.6 | 155 | 22.8 | 7.0 | 6.4 | 160 | 300 | 47 |
| 1 1/2" | 900/1500 | XC-38#-12ER‡12ER‡-B*-*** | 476 | 474 | 454 | 453 | 73.0 | 92.1 | 180 | 32.3 | 7.0 | 6.4 | 190 | 500 | 53 |
| 1 1/2" | 2500 | XC-38#-12FR‡12FR‡-B*-*** | 510 | 512 | 471 | 472 | 73.0 | 114.1 | 205 | 45.0 | 7.0 | 6.4 | 190 | 500 | 64 |
| 2" | 150 | XC-38#-16AR‡16AR‡-B*-*** | 418 | 426 | 425 | 429 | 92.1 | 102.1 | 150 | 18.0 | 2.0 | 6.4 | 160 | 300 | 45 |
| 2" | 300 | XC-38#-16BR‡16BR‡-B*-*** | 424 | 436 | 428 | 434 | 92.1 | 108.1 | 165 | 21.2 | 2.0 | 7.9 | 160 | 300 | 47 |
| 2" | 600 | XC-38#-16CR‡16CR‡-B*-*** | 444 | 446 | 438 | 439 | 92.1 | 108.1 | 165 | 25.9 | 7.0 | 7.9 | 160 | 300 | 49 |
| 2" | 900/1500 | XC-38#-16ER‡16ER‡-B*-*** | 472 | 472 | 452 | 452 | 92.1 | 124.1 | 215 | 38.6 | 7.0 | 7.9 | 190 | 500 | 62 |
| 2" | 2500 | XC-38#-16FR‡16FR‡-B*-*** | 502 | 504 | 467 | 468 | 92.1 | 133.1 | 235 | 51.4 | 7.0 | 7.9 | 230 | 500 | 74 |
| 3" | 150 | XC-38#-24AR‡24AR‡-B*-*** | 428 | 436 | 430 | 434 | 127.0 | 133.1 | 190 | 22.8 | 2.0 | 6.4 | 190 | 300 | 52 |
| 3" | 300 | XC-38#-24BR‡24BR‡-B*-*** | 438 | 450 | 435 | 441 | 127.0 | 146.1 | 210 | 27.5 | 2.0 | 7.9 | 190 | 300 | 56 |
| 3" | 600 | XC-38#-24CR‡24CR‡-B*-*** | 458 | 460 | 445 | 446 | 127.0 | 146.1 | 210 | 32.3 | 7.0 | 7.9 | 190 | 300 | 59 |
| 3" | 900 | XC-38#-24DR‡24DR‡-B*-*** | 470 | 472 | 451 | 452 | 127.0 | 156.1 | 240 | 38.6 | 7.0 | 7.9 | 230 | 500 | 69 |
| 3" | 1500 | XC-38#-24ER‡24ER‡-B*-*** | 490 | 492 | 461 | 462 | 127.0 | 168.1 | 265 | 48.2 | 7.0 | 7.9 | 230 | 500 | 82 |
| 3" | 2500 | XC-38#-24FR‡24FR‡-B*-*** | 534 | 538 | 483 | 485 | 127.0 | 168.1 | 305 | 67.2 | 7.0 | 9.5 | 230 | 500 | 114 |

Configuration Metric / mm

= BODY/FLANGE MATERIAL (S=F316, L=LF2, U=F51)
* = BOLTING MATERIAL (2FC=L7M, 8ST=B8M)

‡ = FLANGE TYPE (F=RF, J=RTJ)
*** = HANDLE OPTIONS (SHO=STANDARD, HLK=HANDLE LOCKABLE)

TABLE 2

| Flange x NPT | NPT CONFIGURATIONS |
|-------------------------|--|
| XC-38#-12AR‡##02-B*-*** | *PLEASE NOTE: PART CODES VARY |
| XC-38#-12BR‡##02-B*-*** | DEPENDING ON THE CONFIGURATION OF THE VALVE. AS SHOWN TO THE LEFT. |

= NPT SIZE (08=1", 10=1 1/4", 12=1 1/2", 16=2")

TABLE 3

| Size | RF | RTJ |
|--------|-----|-----|
| 1" | -53 | -53 |
| 1 1/4" | -53 | -53 |
| 2" | +15 | +15 |

IN ORDER TO OBTAIN OVERALL LENGTH VALUES (A) FOR 2" NPT CONNECTIONS, THE VALUES IN **TABLE 3** NEED TO BE ADDED OR SUBTRACTED FROM THE OVERALL LENGTH (A). FOR EXAMPLE, TO CALCULATE THE OVERALL LENGTH FOR AN **RF FLANGE x 2" FEMALE NPT** WE ADD 15MM TO THE 1 1/2" NPT - RF VALUES IN **TABLE 1**.

ALCO XC Ø50mm Bore

TABLE 1

RF/RTJ Flange x Flange/NPT

| Flange size (in) | Class rating | Part No. | A - RF | A - RTJ | A 2" NPT - RF | A 2" NPT - RTJ | ØB - RF | ØB - RTJ | ØC | D | E - RF | E - RTJ | F | G | Nominal Mass (kg) |
|------------------|--------------|--------------------------|--------|---------|---------------|----------------|---------|----------|-----|------|--------|---------|-----|-----|-------------------|
| 2" | 150 | XC-50#-16AR‡16AR‡-B*-*** | 459 | 467 | 475 | 479 | 92.1 | 102.1 | 150 | 18.0 | 2.0 | 6.4 | 170 | 300 | 63 |
| 2" | 300 | XC-50#-16BR‡16BR‡-B*-*** | 471 | 483 | 481 | 487 | 92.1 | 108.1 | 165 | 21.2 | 2.0 | 7.9 | 170 | 300 | 65 |
| 2" | 600 | XC-50#-16CR‡16CR‡-B*-*** | 491 | 493 | 491 | 492 | 92.1 | 108.1 | 165 | 25.9 | 7.0 | 7.9 | 170 | 300 | 66 |
| 2" | 900/1500 | XC-50#-16ER‡16ER‡-B*-*** | 533 | 535 | 512 | 513 | 92.1 | 124.1 | 215 | 38.6 | 7.0 | 7.9 | 200 | 500 | 80 |
| 2" | 2500 | XC-50#-16FR‡16FR‡-B*-*** | 565 | 567 | 528 | 529 | 92.1 | 133.1 | 235 | 51.4 | 7.0 | 7.9 | 200 | 500 | 91 |
| 3" | 150 | XC-50#-24AR‡24AR‡-B*-*** | 477 | 485 | 484 | 488 | 127.0 | 133.1 | 190 | 22.8 | 2.0 | 6.4 | 170 | 300 | 69 |
| 3" | 300 | XC-50#-24BR‡24BR‡-B*-*** | 493 | 505 | 492 | 498 | 127.0 | 146.1 | 210 | 27.5 | 2.0 | 7.9 | 200 | 300 | 74 |
| 3" | 600 | XC-50#-24CR‡24CR‡-B*-*** | 513 | 515 | 502 | 503 | 127.0 | 146.1 | 210 | 32.3 | 7.0 | 7.9 | 200 | 300 | 77 |
| 3" | 900 | XC-50#-24DR‡24DR‡-B*-*** | 533 | 535 | 512 | 513 | 127.0 | 156.1 | 240 | 38.6 | 7.0 | 7.9 | 200 | 500 | 87 |
| 3" | 1500 | XC-50#-16ER‡16ER‡-B*-*** | 559 | 561 | 525 | 526 | 127.0 | 168.1 | 265 | 48.2 | 7.0 | 7.9 | 240 | 500 | 101 |
| 3" | 2500 | XC-50#-16FR‡16FR‡-B*-*** | 601 | 607 | 546 | 549 | 127.0 | 168.1 | 305 | 67.2 | 7.0 | 9.5 | 240 | 500 | 133 |
| 4" | 150 | XC-50#-32AR‡32AR‡-B*-*** | 477 | 487 | 484 | 489 | 157.2 | 171.1 | 230 | 22.8 | 2.0 | 6.4 | 200 | 300 | 75 |
| 4" | 300 | XC-50#-32BR‡32BR‡-B*-*** | 499 | 511 | 495 | 501 | 157.2 | 175.1 | 255 | 30.7 | 2.0 | 7.9 | 200 | 300 | 85 |
| 4" | 600 | XC-50#-32CR‡32CR‡-B*-*** | 525 | 527 | 508 | 509 | 157.2 | 175.1 | 275 | 38.6 | 7.0 | 7.9 | 240 | 300 | 97 |
| 4" | 900 | XC-50#-32DR‡32DR‡-B*-*** | 545 | 547 | 518 | 519 | 157.2 | 181.1 | 290 | 45.0 | 7.0 | 7.9 | 240 | 500 | 107 |
| 4" | 1500 | XC-50#-32ER‡32ER‡-B*-*** | 573 | 575 | 532 | 533 | 157.2 | 194.1 | 310 | 54.5 | 7.0 | 7.9 | 240 | 500 | 124 |
| 4" | 2500 | XC-50#-32FR‡32FR‡-B*-*** | 621 | 629 | 556 | 560 | 157.2 | 203.1 | 355 | 76.7 | 7.0 | 11.1 | 240 | 500 | 172 |

Configuration Metric / mm

= BODY/FLANGE MATERIAL (S=F316, L=LF2, U=F51)

* = BOLTING MATERIAL (2FC=L7M, 8ST=B8M)

‡ = FLANGE TYPE (F=RF, J=RTJ)

*** = HANDLE OPTIONS (SHO=STANDARD, HLK=HANDLE LOCKABLE)

TABLE 2

Flange x NPT

XC-50#-16AR‡##02-B*-***
XC-50#-16BR‡##02-B*-***

NPT CONFIGURATIONS

*PLEASE NOTE: PART CODES VARY
DEPENDING ON THE CONFIGURATION
OF THE VALVE. AS SHOWN TO THE LEFT.

= NPT SIZE (10=1 1/4", 12=1 1/2", 16=2", 20=2 1/2")

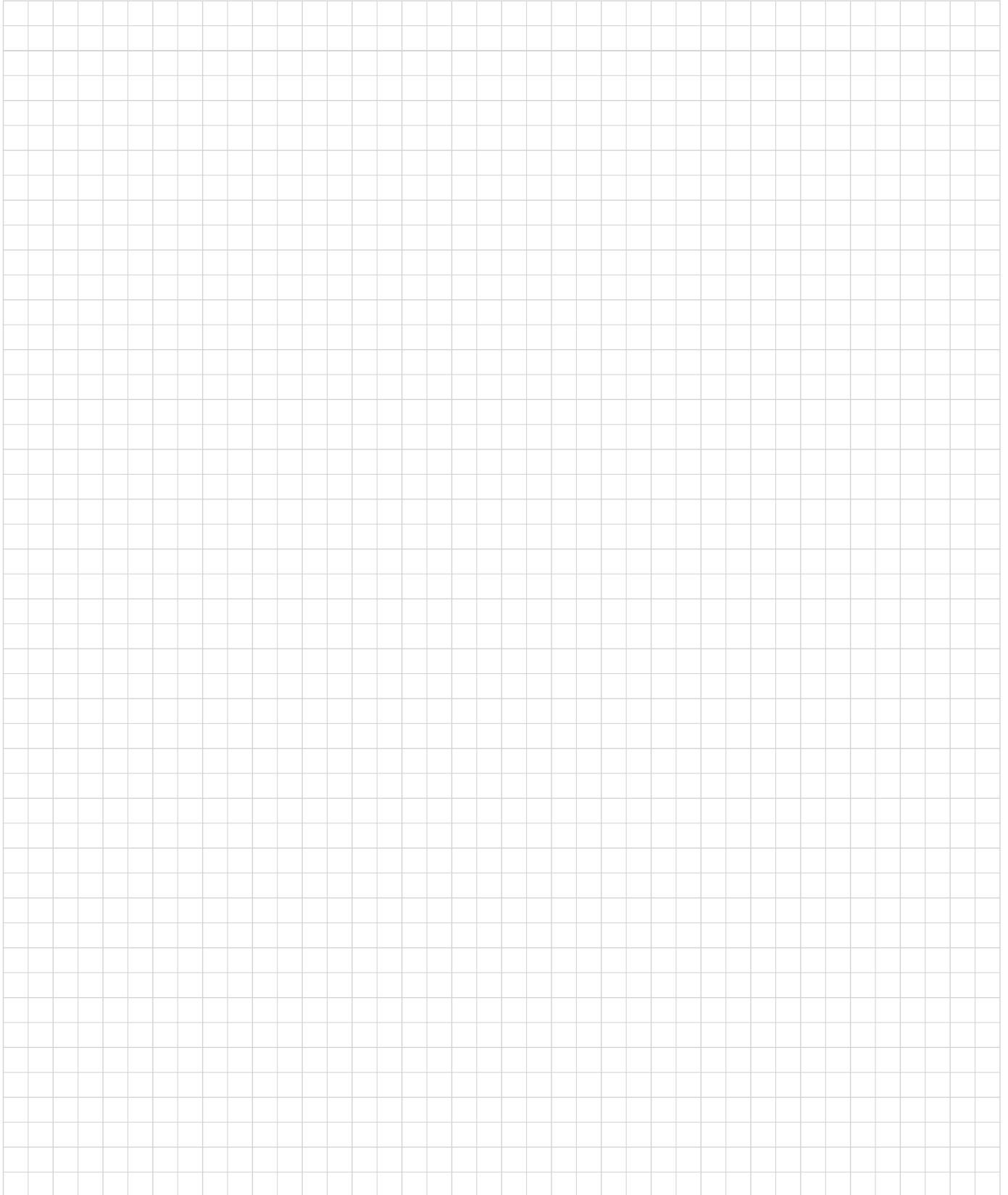
TABLE 3

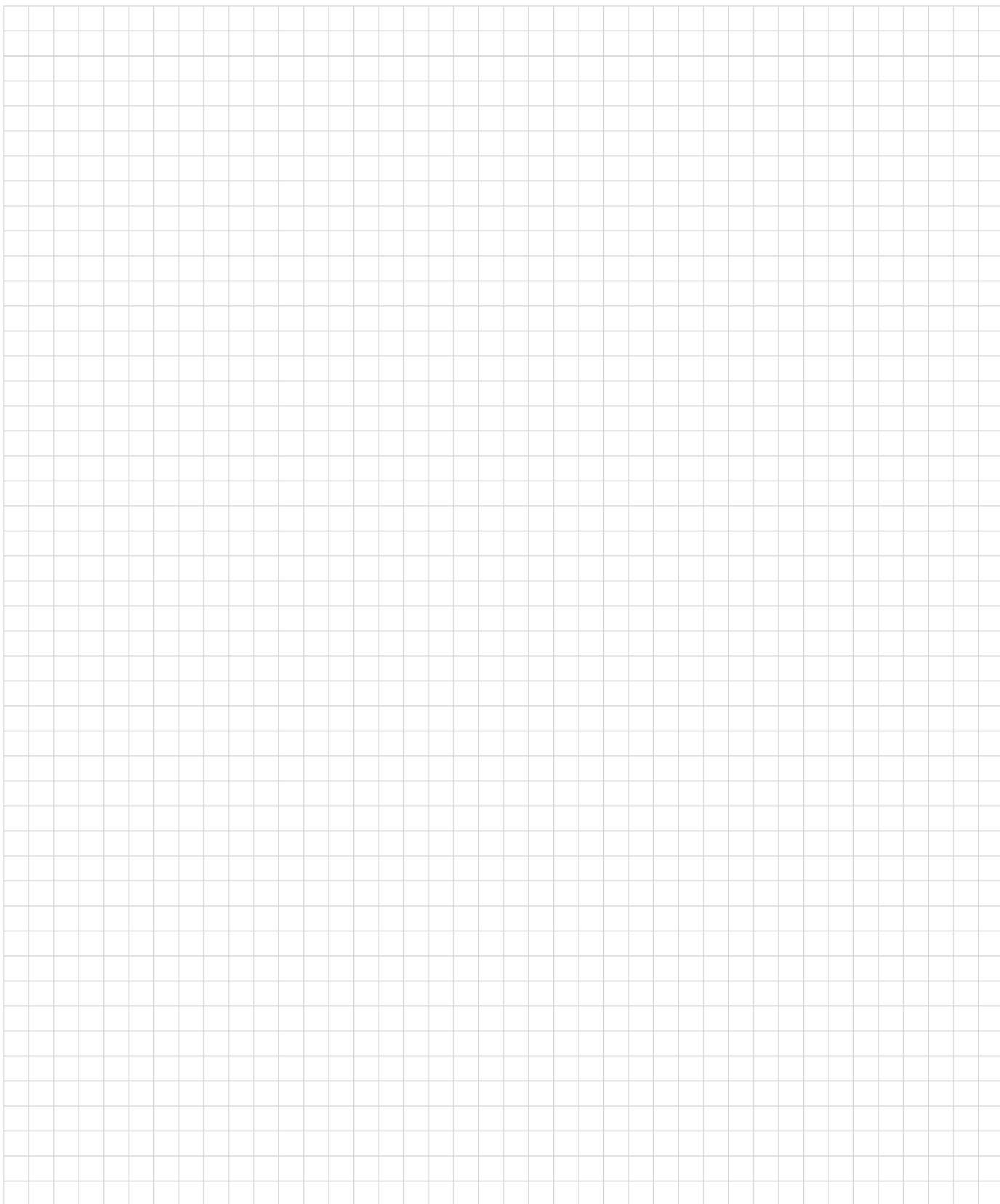
| Size | RF | RTJ |
|--------|-----|-----|
| 1 1/4" | -56 | -56 |
| 1 1/2" | -56 | -56 |
| 2 1/2" | +12 | +12 |

IN ORDER TO OBTAIN OVERALL LENGTH VALUES (A) FOR 2" AND 2 1/2" NPT CONNECTIONS, THE VALUES IN TABLE 3 NEED TO BE ADDED OR SUBTRACTED FROM THE OVERALL LENGTH (A). FOR EXAMPLE, TO CALCULATE THE OVERALL LENGTH FOR AN RF FLANGE x 2 1/2" FEMALE NPT WE ADD 12 TO THE 2" NPT - RF VALUES IN TABLE 1.

NOTES

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SOLUTIONS FOR CRITICAL APPLICATIONS.**

For further information please contact:
Alco Valves Group Ltd
Goeder Lane, Brighouse HD6 1HB United Kingdom
Phone +44 (0) 1484 710 511 Email uk@alco-valves.co.uk

alco-valves.com