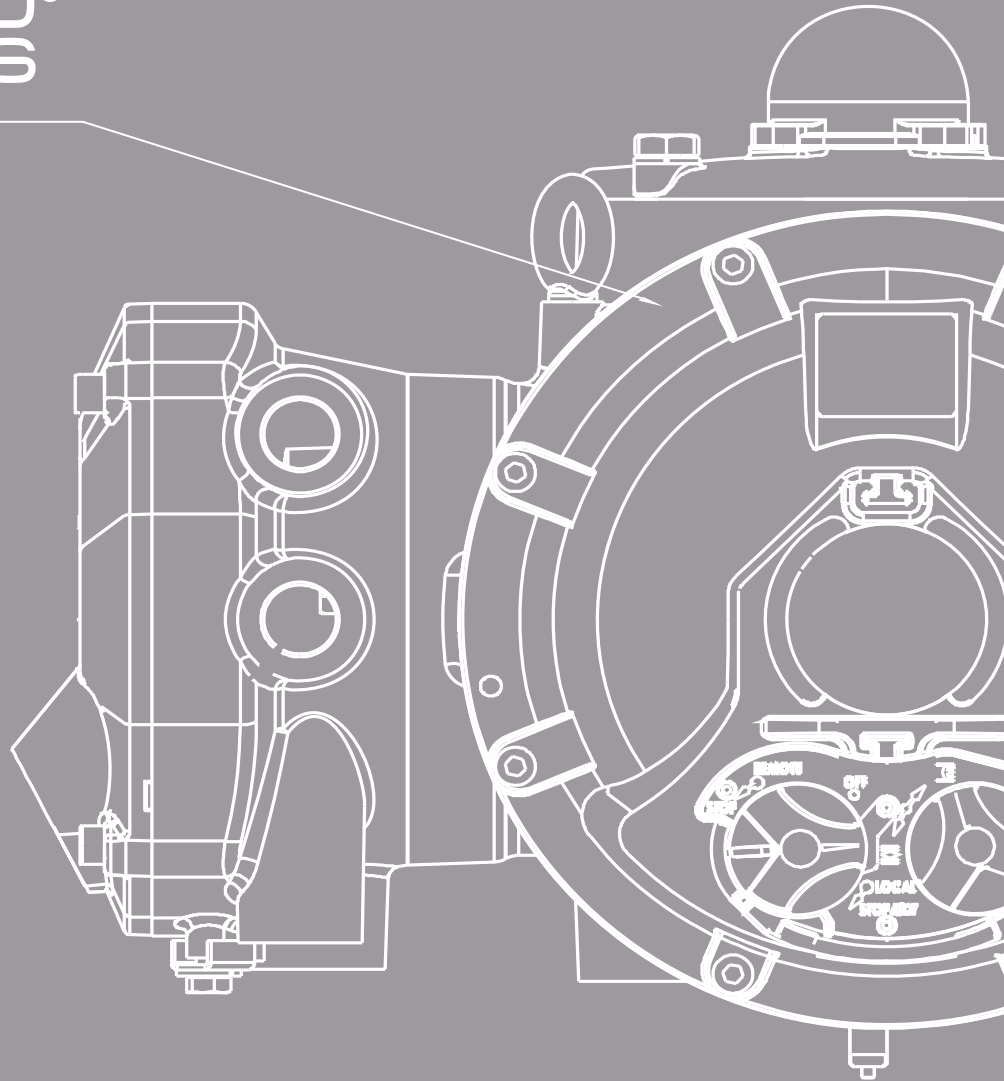


LABEL  
.....



**BERNARD<sup>®</sup>  
CONTROLS**



TEC02-12\_E+F\_GRP\_rev02c

//////// Invest in Confidence //////////////////////////////////////

**New**

**Fail-Safe Electric Actuators  
Servomoteurs à sécurité positive  
FSE RANGE / GAMME FSE**

**TECHNICAL DATA / DONNÉES TECHNIQUES**

\* Click on ● to go directly on the right page!  
Cliquez sur ● pour atteindre directement la page concernée !

## ① Performances

## ② Dimensions

- 2.1 From FSE8AAHY0032E1 to FSE20AAHY0050E0
- 2.2 From FSE50AHY0050E7 to FSE160AHY0080E1
- 2.3 From FSE1800BHY0080E4 to FSE270BHY0100E1
- 2.4 From FSE400CHY0100E2 to FSE45HY0C0125E1
- 2.5 From FSE750DHY0125E2 to FSE950DHY0150E1
- 2.6 From FSE1250EHY0150E3 to FSE1750EHY0200E1
- 2.7 From FSE2100GHY0200E4 to FSE3400GHY0200E1
- 2.8 From FSE4500HHY0250E2 to FSE5500HHY0275E1
- 2.9 From FSE6600JHY0275E4 to FSE11000JHY0300E1

## ③ Wiring / Câblage

All the data below are given on an indicative basis, in the context of an electric opening and a closing on spring.

| Type<br>Modèle   | Maximun Operating Pressure Bar<br>Pression de fonctionnement maximale Bar | Electric torque Nm<br>Couple électrique Nm |         |       | Spring torque Nm<br>Couple du ressort Nm |         |       | Operating time sec.<br>Temps de fonctionnement sec. |           | Flange ISO<br>Bride ISO |
|------------------|---|--|---------|-------|--|---------|-------|---|-----------|-------------------------|
|                  |   | Start                                      | Minimum | End   | Start                                    | Minimum | End   | Opening   | Closing   |                         |
|                  |   | Démarrage                                  | Minimum | Fin   | Démarrage                                | Minimum | Fin   | Ouverture   | Fermeture |                         |
| FSE8AAHY0032E1   | 160   | 164  | 82      | 142   | 109                                      | 50      | 87    | 20  | 1 - 20    | F07/F10                 |
| FSE8AAHY0040E1   | 160   | 324  | 166     | 303   | 109                                      | 50      | 87    | 20  | 1 - 20    | F07/F10                 |
| FSE8AAHY0050E1   | 150   | 556  | 288     | 534   | 109                                      | 50      | 87    | 20  | 1 - 20    | F07/F10                 |
| FSE20AAHY0050E0  | 150   | 409  | 168     | 290   | 341                                      | 151     | 230   | 20  | 1 - 20    | F07/F10                 |
| FSE50AHY0050E7   | 160   | 656  | 293     | 561   | 598                                      | 287     | 503   | 20  | 1 - 20    | F14                     |
| FSE70AHY0050E6   | 160   | 878  | 391     | 801   | 864                                      | 421     | 745   | 20  | 1 - 20    | F14                     |
| FSE125AHY0063E3  | 160   | 1506                                       | 659     | 1268  | 1508                                     | 728     | 1269  | 20  | 1 - 20    | F14                     |
| FSE140AHY0063E2  | 160   | 1792                                       | 788     | 1516  | 1722                                     | 831     | 1446  | 20  | 1 - 20    | F14                     |
| FSE160AHY0080E1  | 130   | 2583                                       | 1143    | 2173  | 2049                                     | 968     | 1639  | 20  | 1 - 20    | F14                     |
| FSE180BHY0080E4  | 190   | 2480                                       | 1085    | 2064  | 2292                                     | 1093    | 1876  | 30  | 1 - 40    | F16                     |
| FSE210BHY0080E3  | 190   | 2603                                       | 1110    | 2076  | 2676                                     | 1266    | 2149  | 30  | 1 - 40    | F16                     |
| FSE270BHY0080E1  | 190   | 3565                                       | 1538    | 2901  | 3435                                     | 1630    | 2771  | 30  | 1 - 40    | F16                     |
| FSE270BHY0100E1  | 110   | 3702                                       | 1607    | 3038  |  |         |       |   |           |                         |
| FSE400CHY0100E2  | 160   | 5512                                       | 2303    | 4181  | 5415                                     | 2495    | 4084  | 35  | 1 - 40    | F25                     |
| FSE450CHY0100E1  | 160   | 6303                                       | 2690    | 4997  | 5970                                     | 2794    | 4664  | 35  | 1 - 40    | F25                     |
| FSE450CHY0125E1  | 125   | 6532                                       | 2804    | 5226  |  |         |       |   |           |                         |
| FSE750DHY0125E2  | 140   | 11554                                      | 4791    | 8368  | 10824                                    | 4805    | 7638  | 40  | 1 - 40    | F30                     |
| FSE950DHY0125E1  | 140   | 14215                                      | 5905    | 10603 | 13387                                    | 6090    | 9775  | 40  | 1 - 40    | F30                     |
| FSE950DHY0150E1  | 125   | 15084                                      | 6340    | 11472 |  |         |       |   |           |                         |
| FSE1250EHY0150E3 | 140   | 22401                                      | 8840    | 14684 | 20519                                    | 8762    | 12802 | 50  | 2 - 60    | F35                     |
| FSE1500EHY0150E2 | 140   | 27082                                      | 10439   | 16785 | 25458                                    | 10683   | 15162 | 50  | 2 - 60    | F35                     |
| FSE1750EHY0150E1 | 140   | 31388                                      | 12475   | 20917 | 28368                                    | 12168   | 17896 | 50  | 2 - 60    | F35                     |
| FSE1750EHY0200E1 | 100   | 31608                                      | 12584   | 21137 |  |         |       |   |           |                         |

<sup>3</sup> Mechanical power of the electrical motor given for an actuator output torque equal to 35% of Max torque /  
Puissance mécanique du moteur électrique donnée pour un couple de sortie de l'actionneur égal à 35% du couple Max

All the data below are given on an indicative basis, in the context of an electric opening and a closing on spring.

| Type<br>Modèle    | Maximun<br>Operating<br>Pressure Bar<br><br>Pression de<br>fonctionnement<br>maximale Bar | Electric torque Nm<br>Couple électrique Nm |         |        | Spring torque Nm<br>Couple du ressort Nm |         |        | Operating time sec.<br>Temps de fonctionnement<br>sec. |           | Flange ISO<br>Bride ISO |
|-------------------|---|--|---------|--------|--|---------|--------|--|-----------|-------------------------|
|                   |   | Start                                      | Minimum | End    | Start                                    | Minimum | End    | Opening  | Closing   |                         |
|                   |   | Démarrage                                  | Minimum | Fin    | Démarrage                                | Minimum | Fin    | Ouverture  | Fermeture |                         |
| FSE2100GHY0200E4  | 160   | 37910                                      | 8340    | 26330  | 32811                                    | 14214   | 21231  | 60   | 2 - 60    | F40                     |
| FSE2500GHY0200E3  | 160   | 42050                                      | 16679   | 28000  | 39027                                    | 16835   | 24977  | 60   | 2 - 60    | F40                     |
| FSE2900GHY0200E2  | 160   | 49459                                      | 18641   | 29232  | 49623                                    | 20787   | 29396  | 60   | 2 - 60    | F40                     |
| FSE2900GHY0225E2  | 125   | 52102                                      | 19962   | 31875  |  |         |        |  |           |                         |
| FSE2900GHY0250E2  | 100   | 59922                                      | 23873   | 39696  |  |         |        |  |           |                         |
| FSE3400GHY0200E1  | 100   | 67343                                      | 26437   | 43295  | 58783                                    | 24602   | 34736  | 60   | 2 - 60    | F40                     |
| FSE4500HHY0250E2  | 160   | 76344                                      | 31941   | 57348  | 66186                                    | 29826   | 47190  | 70   | 2 - 60    | F48                     |
| FSE5500HHY0250E1  | 125   | 98843                                      | 40985   | 72300  | 82117                                    | 36224   | 55574  | 70   | 2 - 60    | F48                     |
| FSE5500HHY0275E1  | 100   | 96109                                      | 39617   | 69566  |  |         |        | 70   | 2 - 60    | F48                     |
| FSE6600JHY0275E4  | 150   | 128749                                     | 50593   | 82951  | 112004                                   | 46884   | 66206  | 80   | 2 - 60    | F60                     |
| FSE7800JHY0275E3  | 150   | 140705                                     | 52276   | 79828  | 139496                                   | 57386   | 78620  | 80   | 2 - 60    | F60                     |
| FSE9000JHY0300E2  | 100   | 156574                                     | 60234   | 97283  | 152870                                   | 64842   | 93580  | 80   | 2 - 60    | F60                     |
| FSE11000JHY0300E1 | 100   | 212414                                     | 82725   | 134263 | 189465                                   | 79139   | 111314 | 80   | 2 - 60    | F60                     |

<sup>3</sup> Mechanical power of the electrical motor given for an actuator output torque equal to 35% of Max torque /  
Puissance mécanique du moteur électrique donnée pour un couple de sortie de l'actionneur égal à 35% du couple Max

2.1

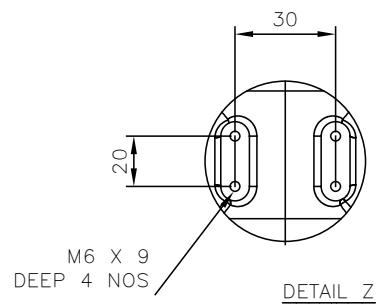
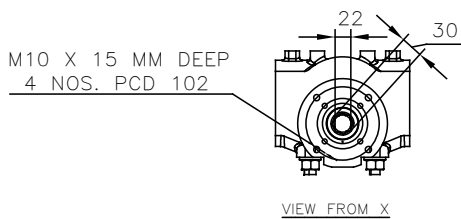
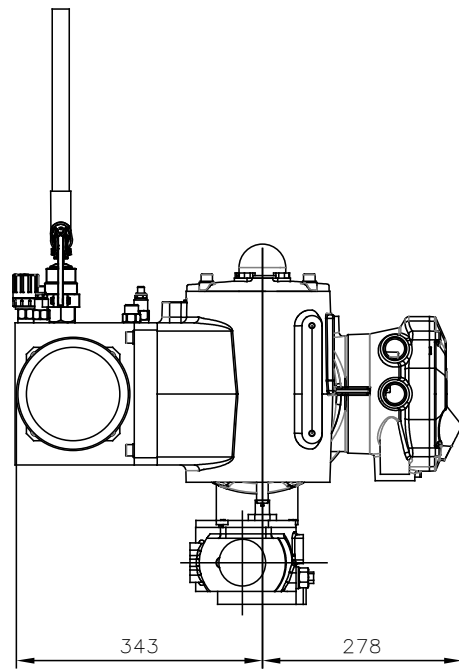
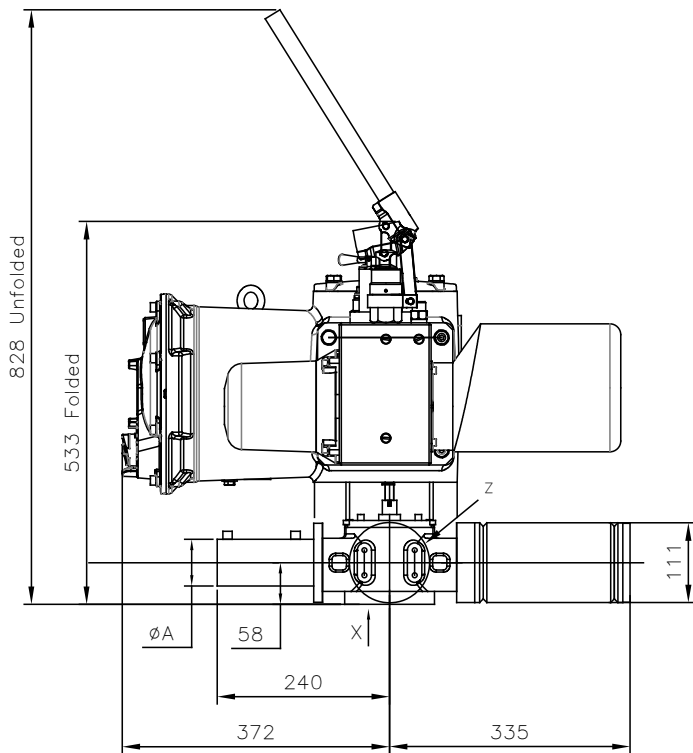
# FSE RANGE / GAMME FSE

## Dimensions

From FSE8AAHY0032E1 to FSE20AAHY0050E0

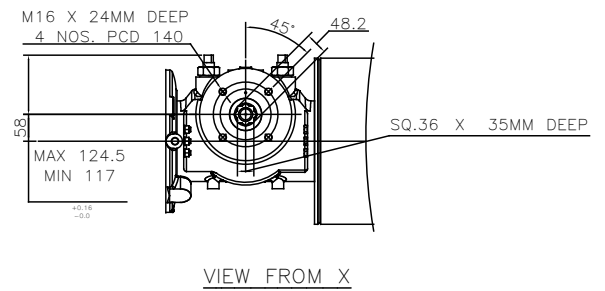
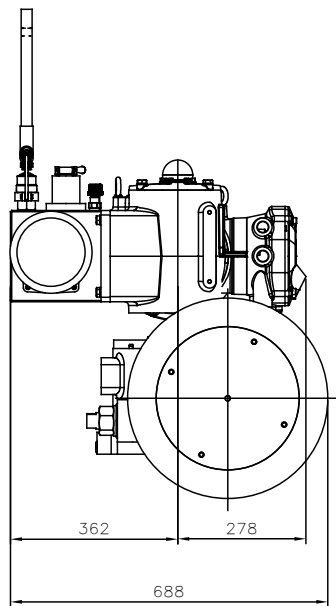
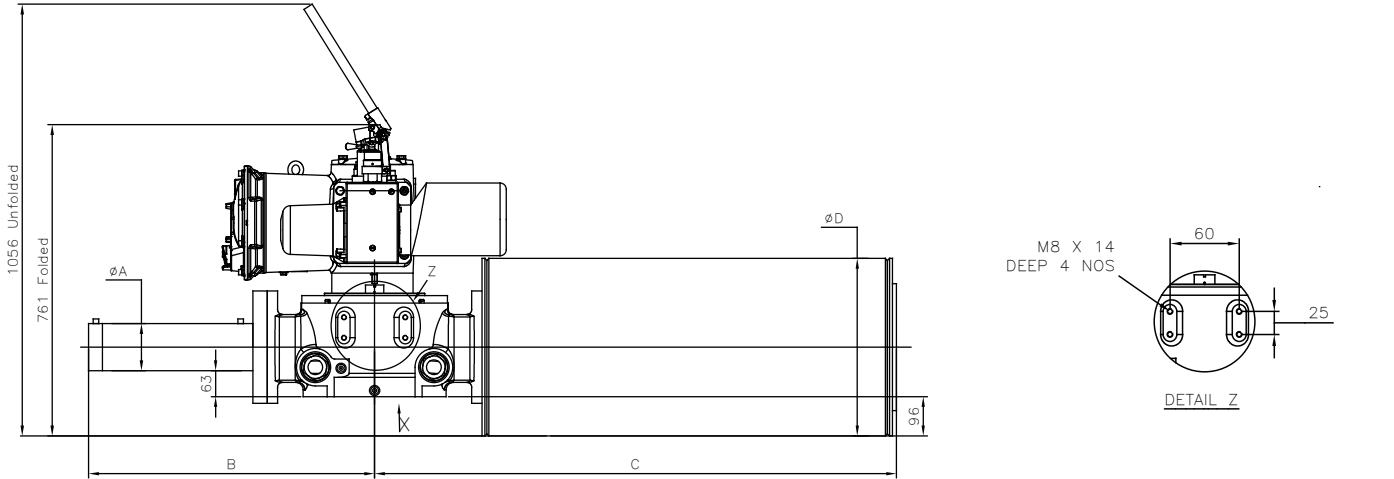


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| Model           | Ø A | Weight (kg) |
|-----------------|-----|-------------|
| FSE8AAHY0032E1  | 47  | 210         |
| FSE8AAHY0040E1  | 55  | 213         |
| FSE8AAHY0050E1  | 65  | 216         |
| FSE20AAHY0050E0 | 65  | 221         |

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| Model           | Ø A | B   | C   | Ø D | Weight (kg) |
|-----------------|-----|-----|-----|-----|-------------|
| FSE50AHY0050E7  | 55  | 417 | 602 | 360 | 250         |
| FSE50AHY0050E6  | 70  | 417 | 602 | 360 | 275         |
| FSE125AHY0063E3 | 85  | 417 | 602 | 360 | 270         |
| FSE140AHY0063E2 | 85  | 417 | 602 | 360 | 275         |
| FSE160AHY0080E1 | 92  | 417 | 602 | 360 | 300         |

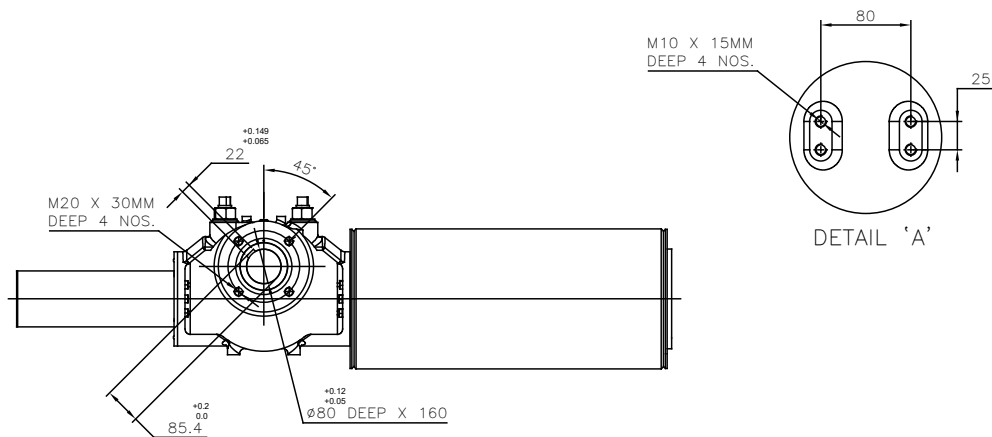
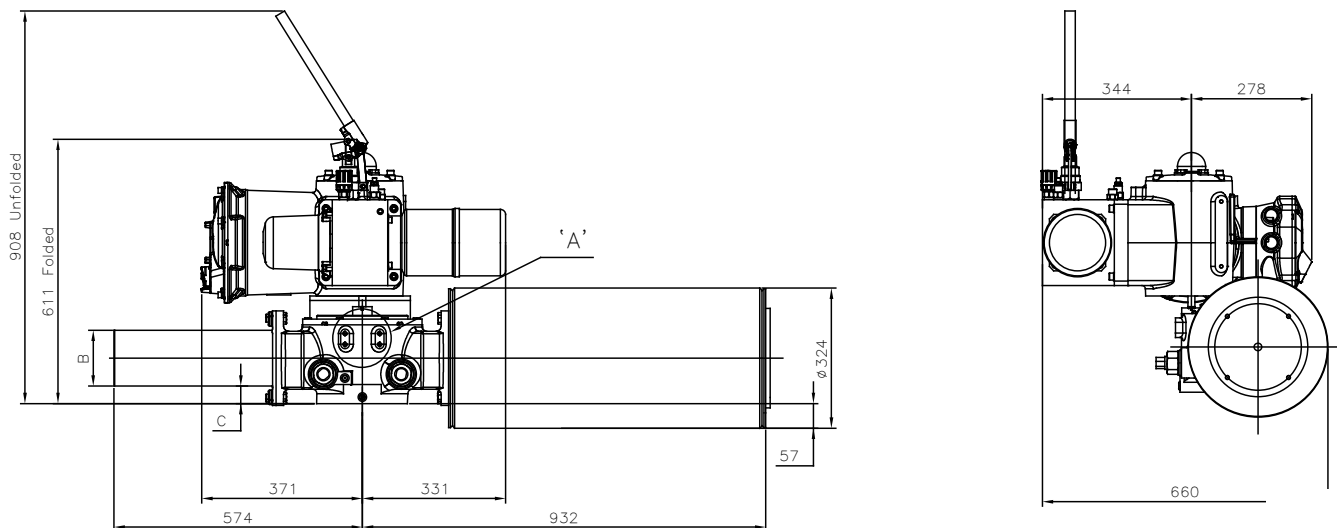
# 2.3

## FSE RANGE / GAMME FSE Dimensions

From FSE1800BHY0080E4 to FSE270BHY0100E1



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| Model           | B   | C  | Weight (kg) |
|-----------------|-----|----|-------------|
| FSE180BHY0080E4 | 100 | 55 | 400         |
| FSE210BHY0080E3 | 100 | 55 | 405         |
| FSE270BHY0080E1 | 100 | 55 | 415         |
| FSE270BHY0100E1 | 120 | 45 | 425         |

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2.4

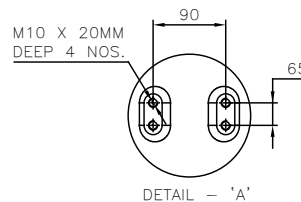
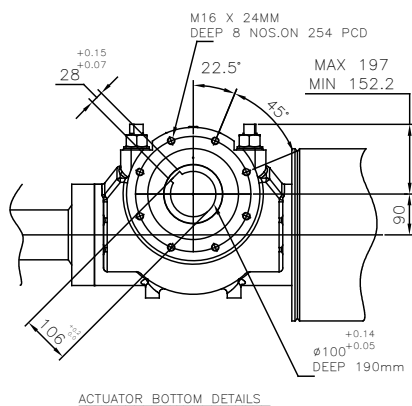
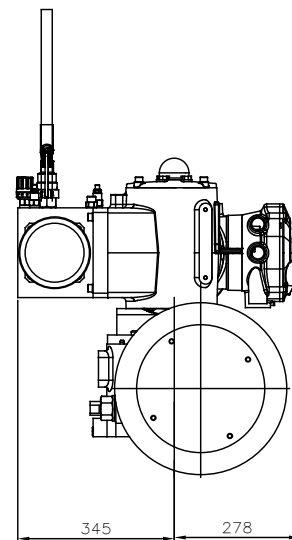
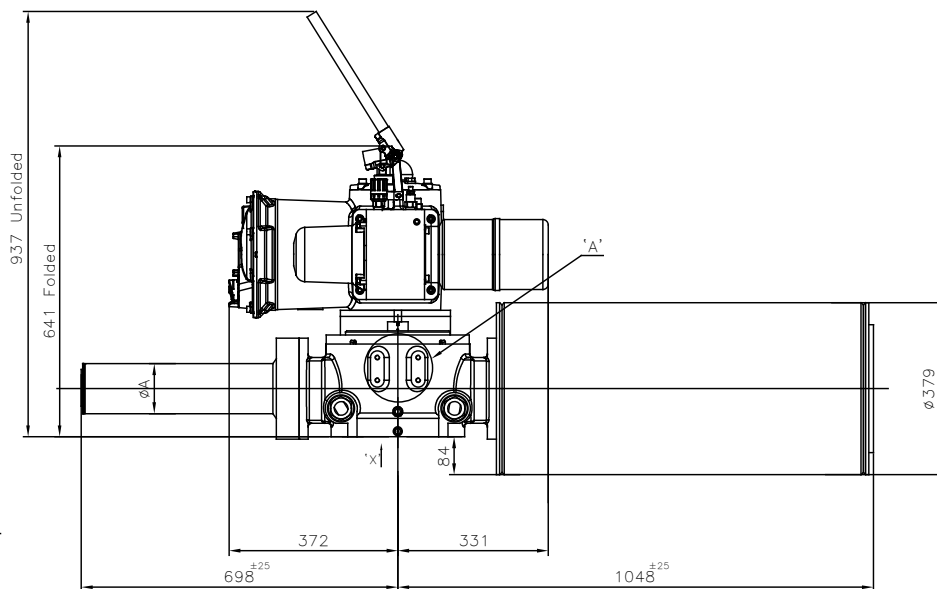
# FSE RANGE / GAMME FSE

## Dimensions

From FSE400CHY0100E2 to FSE450CHY0125E1



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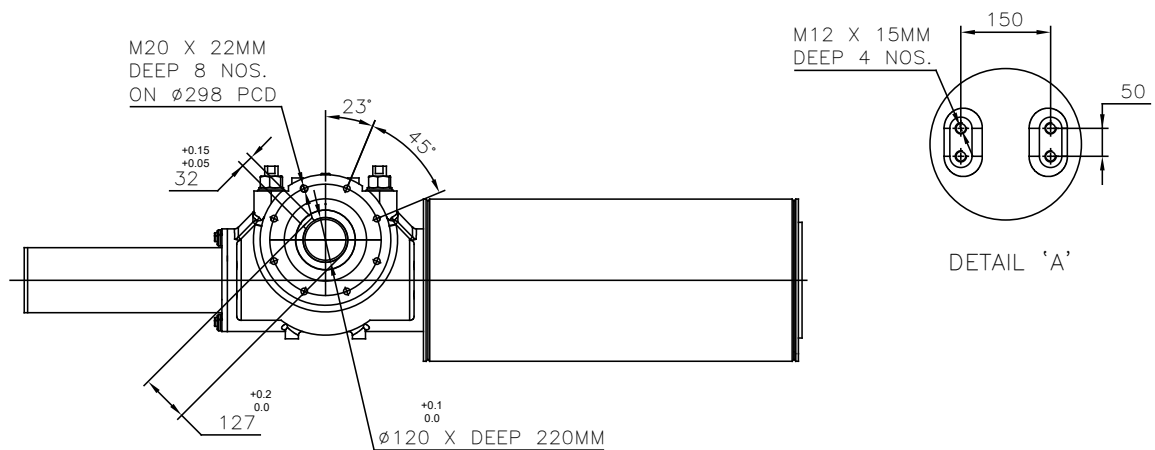
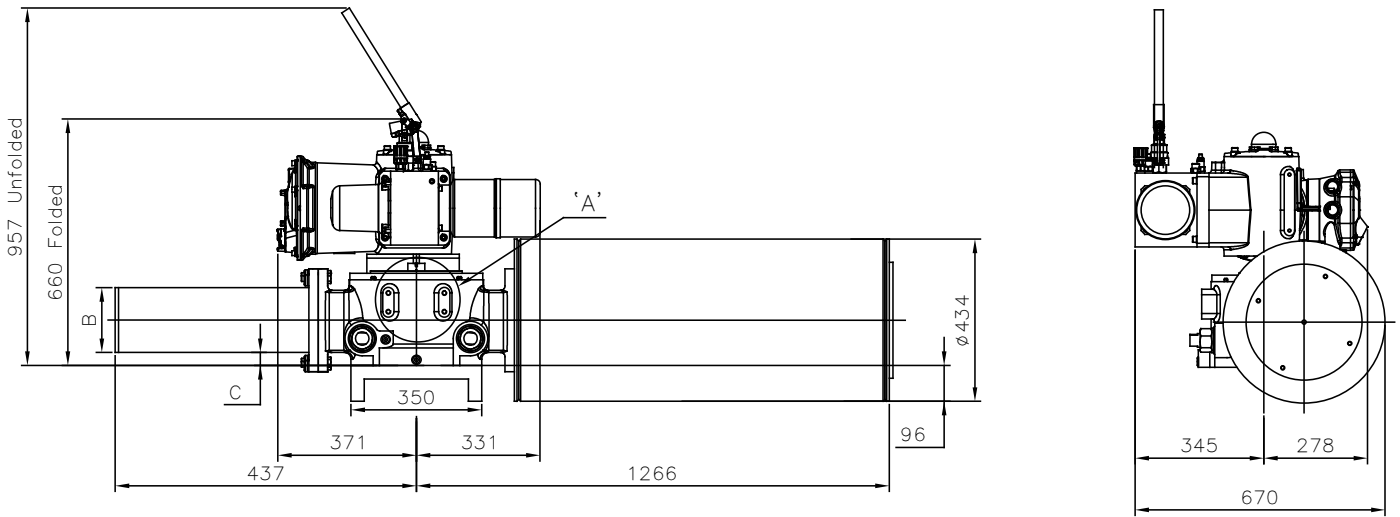


TEC02-12\_E+F\_GRP\_rev02c

| Model           | Ø R | Weight (kg) |
|-----------------|-----|-------------|
| FSE400CHY0100E2 | 115 | 410         |
| FSE450CHY0100E1 | 115 | 415         |
| FSE450CHY0125E1 | 140 | 430         |







| Model           | B   | C    | Weight (kg) |
|-----------------|-----|------|-------------|
| FSE750DHY0125E2 | 145 | 48.5 | 610         |
| FSE950DHY0125E1 | 145 | 48.5 | 615         |
| FSE950DHY0150E1 | 170 | 35   | 640         |

2.6

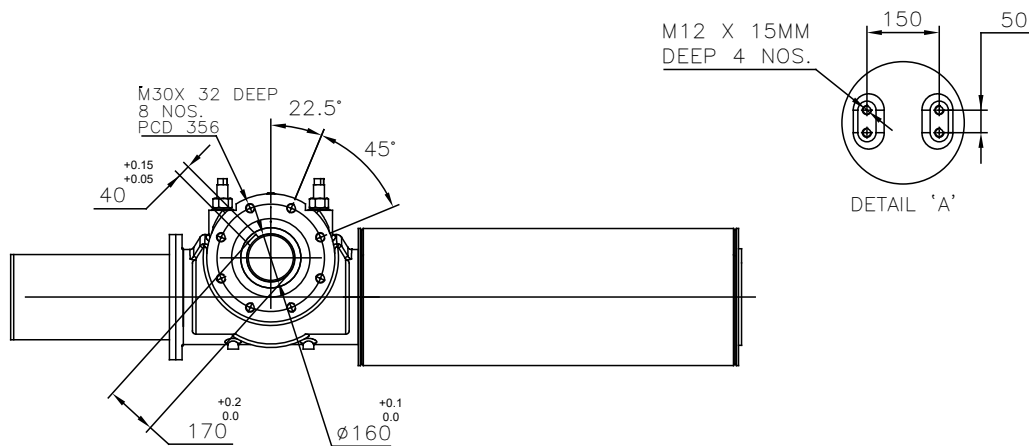
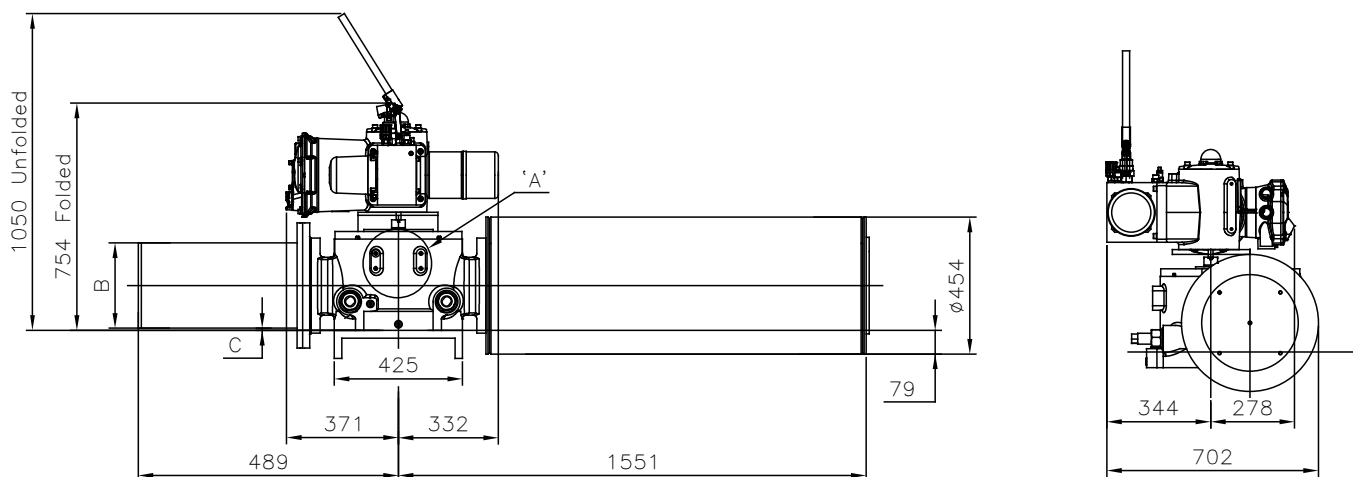
# FSE RANGE / GAMME FSE

## Dimensions

From FSE1250EHY0150E3 to FSE1750EHY0200E1



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| Model            | B   | C  | Weight (kg) |
|------------------|-----|----|-------------|
| FSE1250EHY0150E3 | 170 | 64 | 1029        |
| FSE1500EHY0150E2 | 170 | 64 | 1034        |
| FSE1750EHY0150E1 | 170 | 64 | 1039        |
| FSE1750EHY0200E1 | 220 | 39 | 1080        |

TEC02-12\_E+F\_GRP\_rev02c



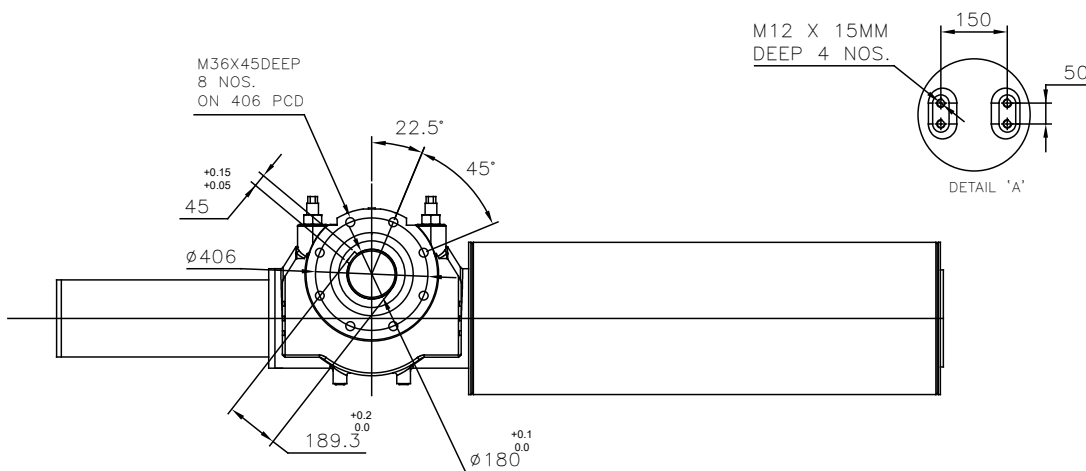
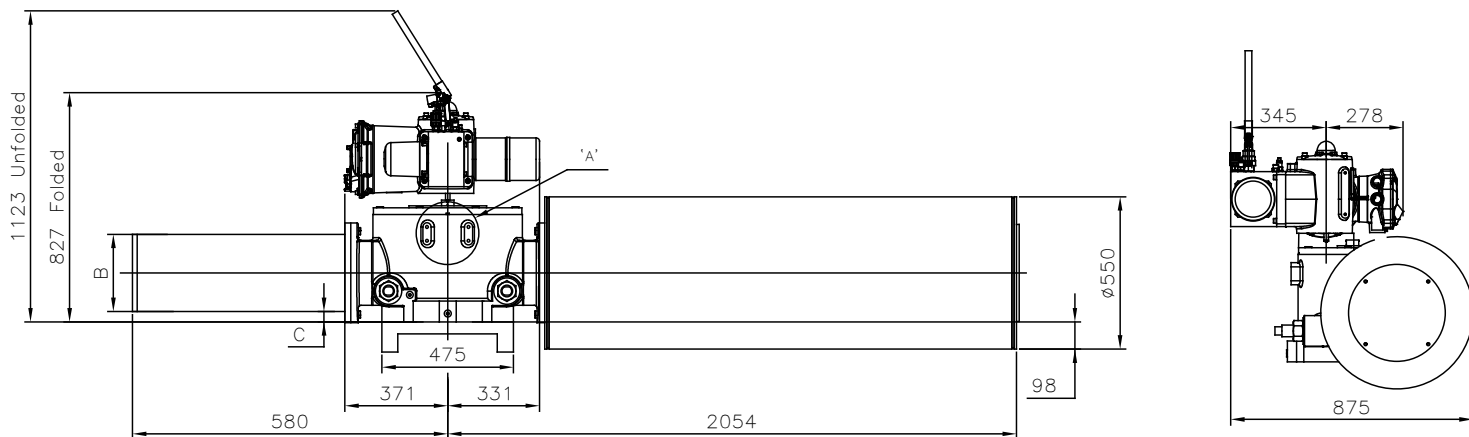
2.7

# FSE RANGE / GAMME FSE

## Dimensions



From FSE2100GHY0200E4 to FSE3400GHY0200E1 [BACK TO CONTENTS](#)



| Model            | B   | C    | Weight (kg) |
|------------------|-----|------|-------------|
| FSE2100GHY0200E4 | 220 | 67   | 1160        |
| FSE2500GHY0200E3 | 220 | 67   | 1165        |
| FSE2900GHY0200E2 | 220 | 67   | 1170        |
| FSE2900GHY0225E2 | 245 | 54.5 | 1210        |
| FSE2900GHY0250E2 | 270 | 42   | 1310        |
| FSE3400GHY0200E1 | 220 | 67   | 1175        |

TEC02-12\_E+F\_GRP\_rev02c



2.8

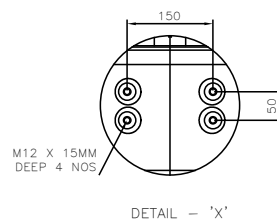
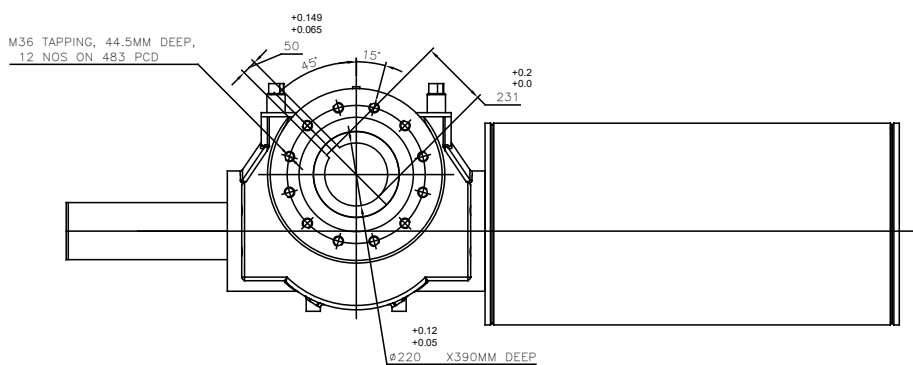
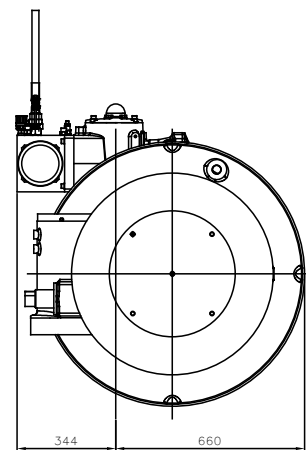
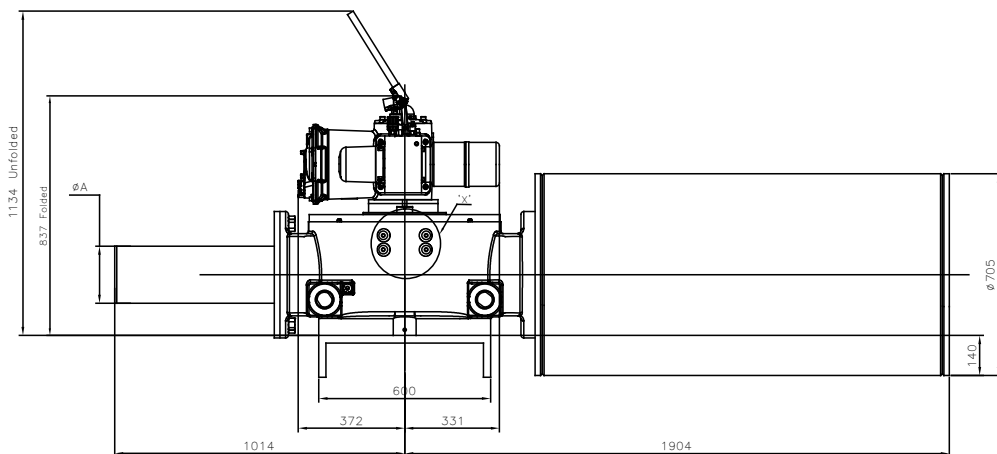
# FSE RANGE / GAMME FSE

## Dimensions

From FSE4500HHY0250E2 to FSE5500HHY0275E1



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| Model            | Ø A | Weight (kg) |
|------------------|-----|-------------|
| FSE4500HHY0250E2 | 265 | 3315        |
| FSE5500HHY0250E1 | 265 | 3320        |
| FSE5500HHY0275E1 | 290 | 4165        |



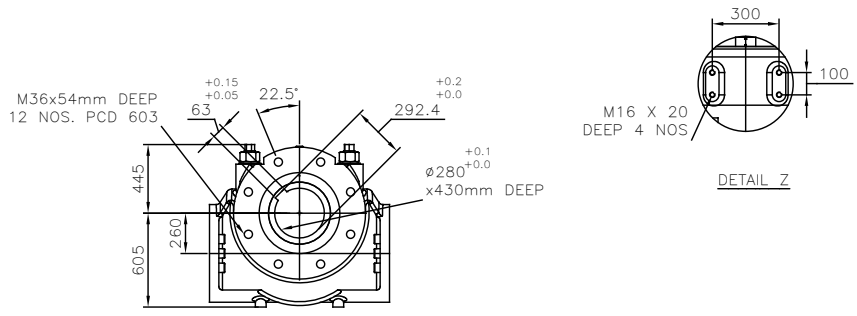
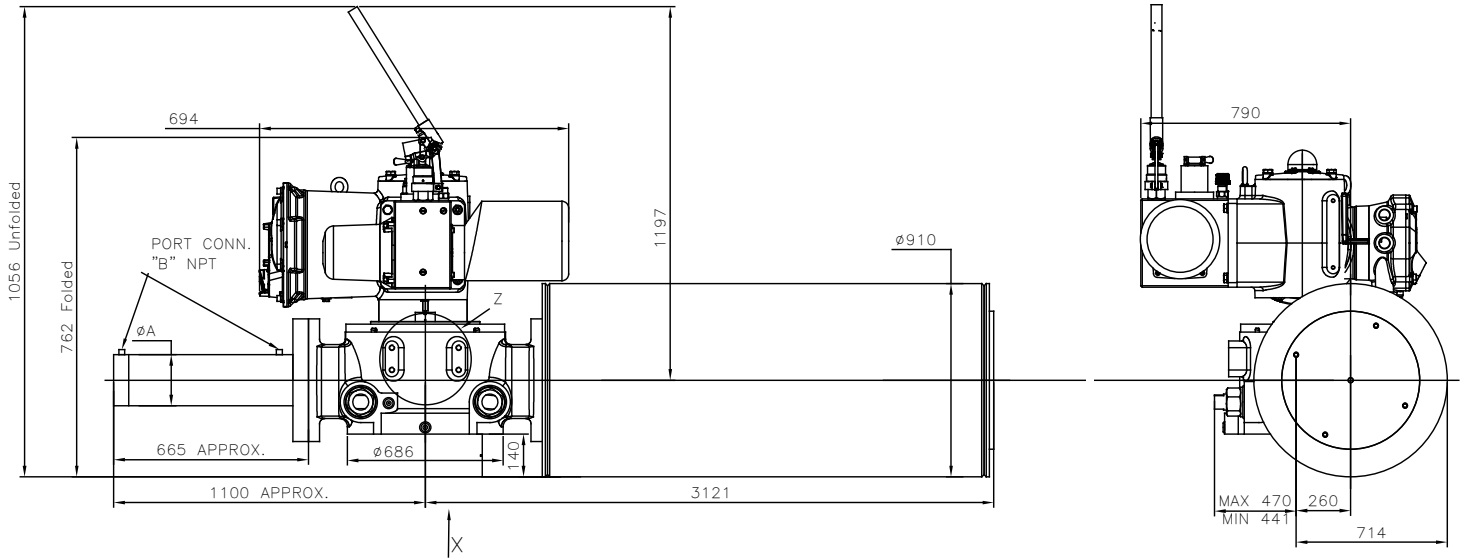
# 2.9

## FSE RANGE / GAMME FSE Dimensions

From FSE6600JHY0275E4 to FSE11000JHY0300E1

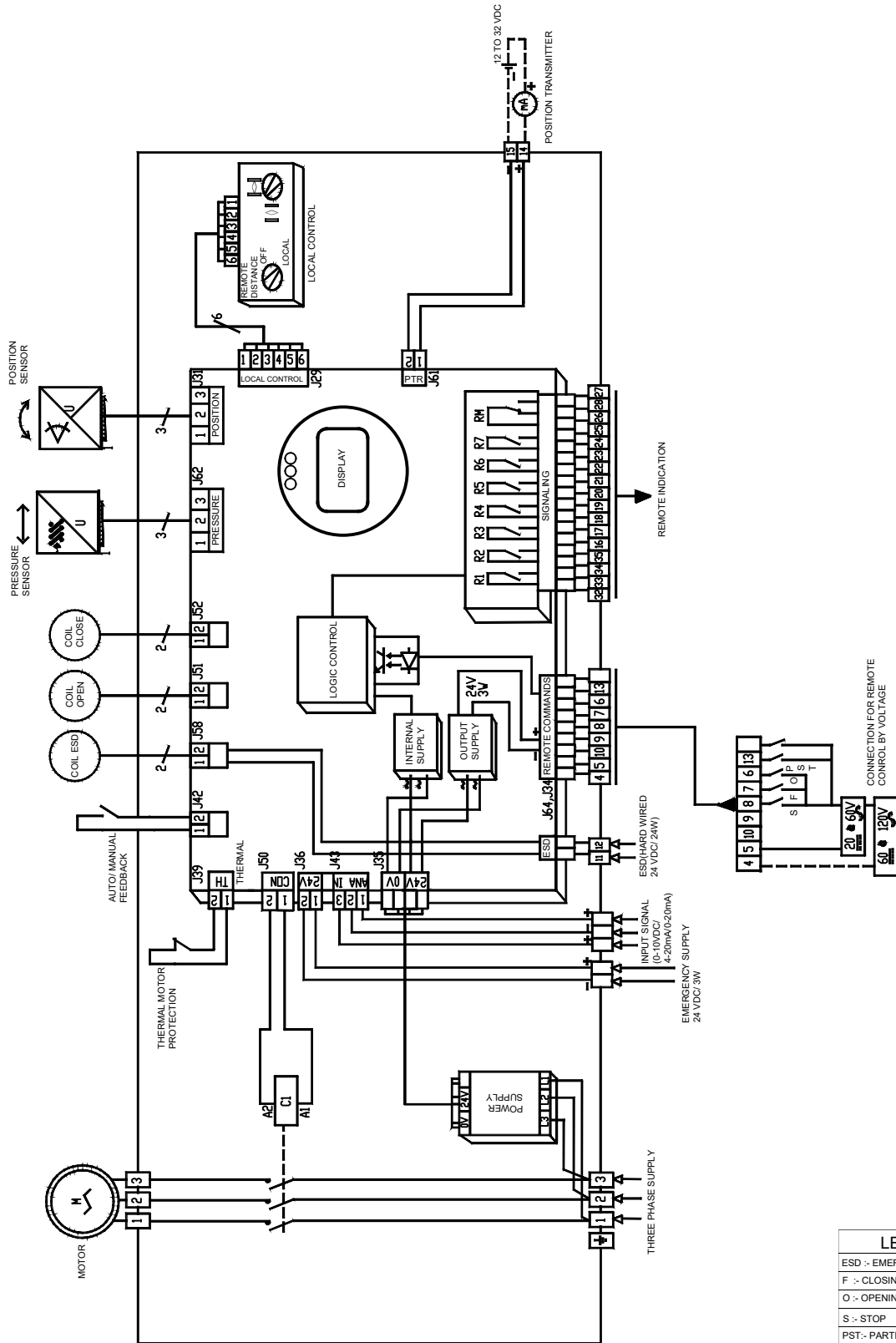


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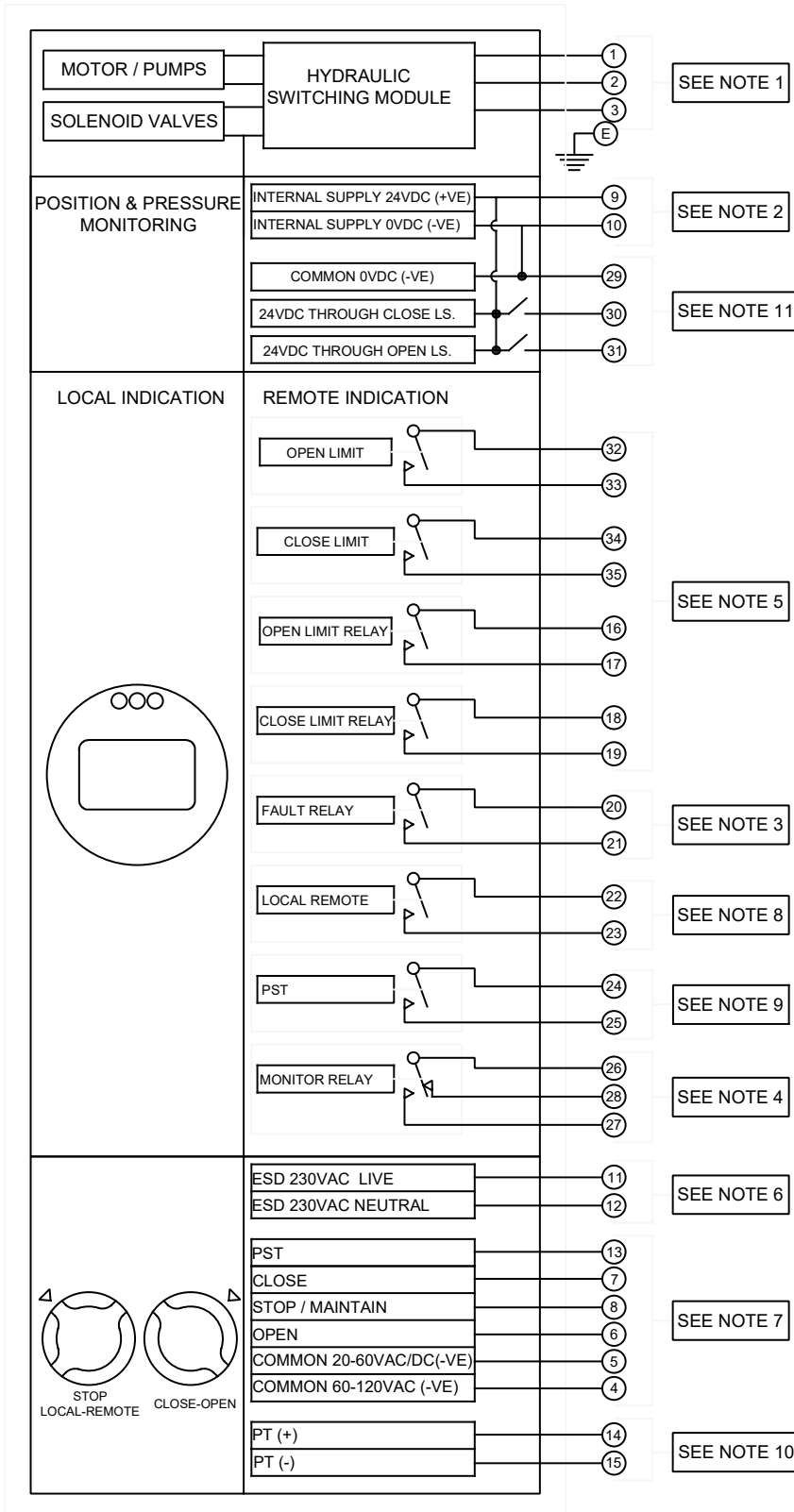
| Model             | Ø A | B   | Weight (kg) |
|-------------------|-----|-----|-------------|
| FSE6600JHY0275E4  | 290 | 1/4 | 4220        |
| FSE7800JHY0275E3  | 290 | 1/4 | 4215        |
| FSE9000JHY0300E2  | 315 | 1/4 | 4545        |
| FSE11000JHY0300E1 | 315 | 1/4 | 4540        |

TEC02-12\_E+F\_GRP\_rev02c



| LEGEND |                       |
|--------|-----------------------|
| ESD    | - EMERGENCY SHUTDOWN  |
| F      | - CLOSING             |
| O      | - OPENING             |
| S      | - STOP                |
| PST    | - PARTIAL STROKE TEST |

TEC02-12\_E+F\_GRP\_rev02c



NOTE:-1

|                               |           |            |
|-------------------------------|-----------|------------|
| THREE - PHASE<br>380 - 480VAC | PHASE - U | TERMINAL-1 |
|                               | PHASE - V | TERMINAL-2 |
|                               | PHASE - W | TERMINAL-3 |

NOTE:-2

ISOLATED, NOMINAL 24VDC, 3W POWER SUPPLY AVAILABLE FOR ACTUATOR FED REMOTE CONTROL

NOTE:-3

INDICATES A FAULT WITH THE ACTUATOR HAS OCCURRED.

(NOTE:- 3, 5, 8 & 9 RELAYS RATED AT 5A - 120 VAC - 30 VDC)

NOTE:-4

MONITORS ACTUATOR AVAILABILITY.

SPDT RELAY RATED AT 5A - 120 VAC - 30 VDC

NOTE:-5

OPEN / CLOSED INDICATION.

NOTE:-6

SAFETY CONTROL SIGNALS

230 VAC 50/60 Hz

24VDC, 23W

NOTE:-7

DIGITAL CONTROL SIGNALS

20-60 VAC/DC OR 60-120 VAC

NOTE:-8

LOCAL / REMOTE INDICATION

NOTE:-9

PST INDICATION

NOTE:-10

ANALOG CONTROL SIGNAL OUTPUT (4-20mA)

NOTE:-11

MECHANICAL LIMIT SWITCHES

TERMINALS 13, 36, 37, 38 & 39 ARE SPARE TERMINALS FOR FUTURE INTERLOCKS

# 3

## FSE RANGE / GAMME FSE Wiring / Câblage

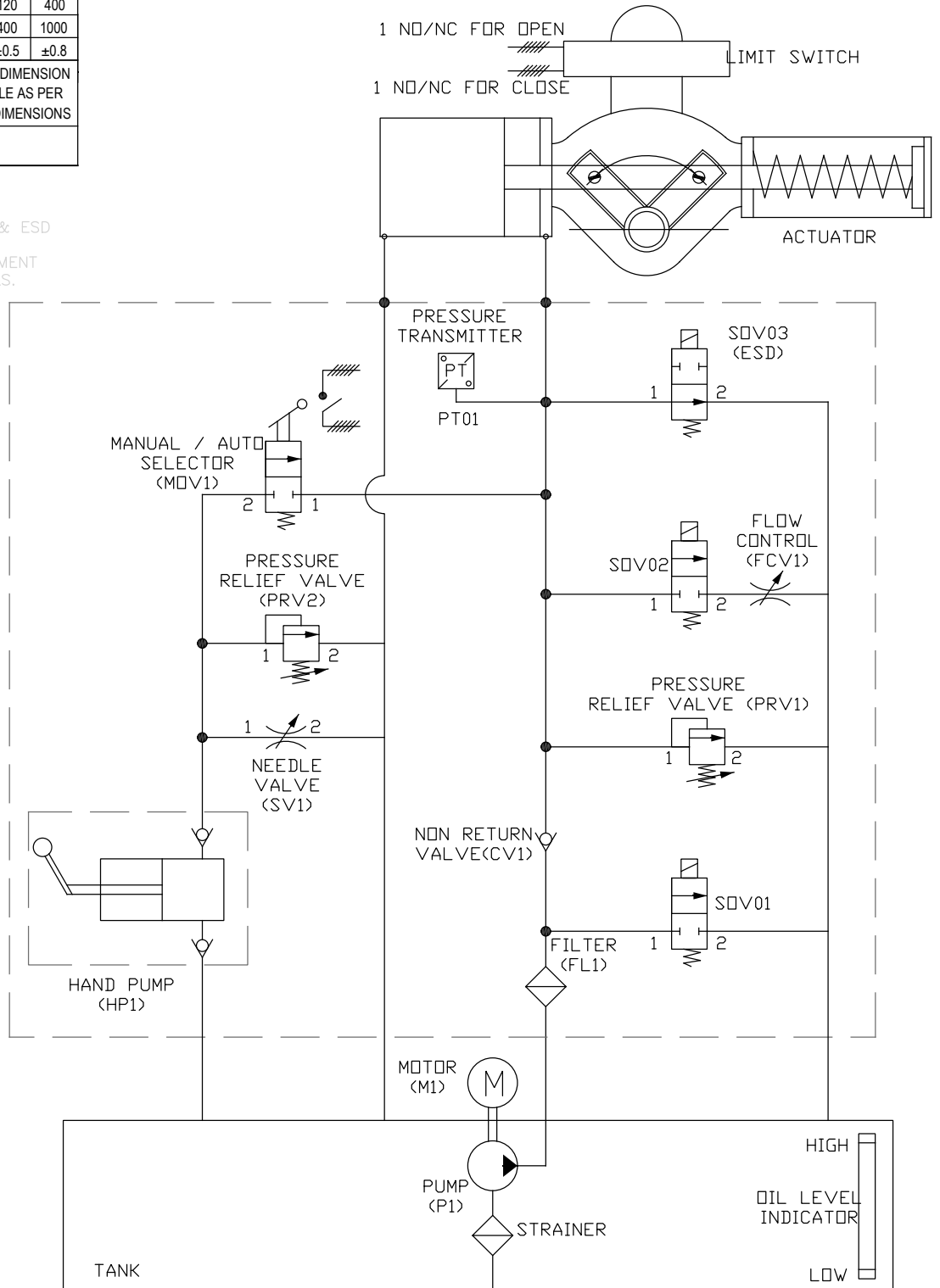


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|  |      |      |      |      |      |      |
|--|------|------|------|------|------|------|
| OVER   | 0.5  | 3    | 6    | 30   | 120  | 400  |
| UPTO   | 3    | 6    | 30   | 120  | 400  | 1000 |
| TOL.   | ±0.1 | ±0.1 | ±0.2 | ±0.3 | ±0.5 | ±0.8 |
| ALLOWABLE DEVIATIONS FOR LINEAR DIMENSION AND LENGTH OF SHORTER SIDE ANGLE AS PER DIN ISO 2768 FOR NON TOLERANCED DIMENSIONS |      |      |      |      |      |      |
| UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS  |      |      |      |      |      |      |

**NOTE:—**

1. POWER FAIL TO STAYPUT & ESD FAIL CLOSE CONDITION.
2. REFER GENERAL ARRANGEMENT DRAWINGS FOR OTHER DETAILS.



TEC02-12\_E+F\_GRP\_rev02c