

# KNIFE GATE VALVE DUCTILE IRON BODY

TECHNICAL PASSPORT

## KNIFE GATE VALVE WITH HANDWHEEL RISING STEM DUCTILE IRON BODY - WAFER TYPE PN10

VG 4400-00

### APPLICATION

The knife gate valve is particularly suitable for the most difficult applications.

**Area of use:** water treatment networks, pulp and paper industry, chemical plants, winemaking, cement works, pneumatic transport, storage.

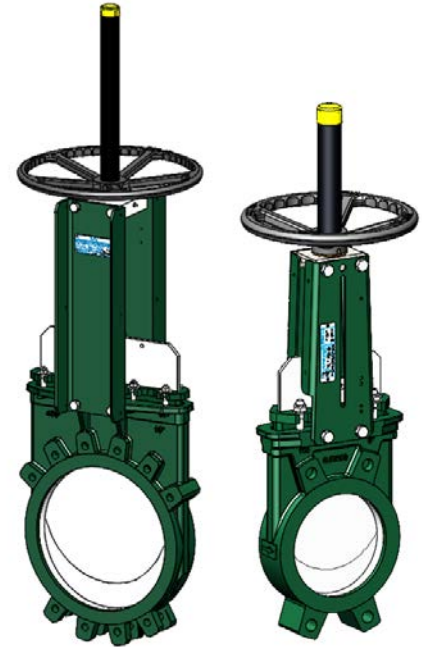


**Fluids:** water, sewage, pulp, pasty products, powdery, granular, fibrous, abrasive and crystallizing.

### GENERAL CHARACTERISTICS

**Range:** from DN50 to DN600.

- Knife Gate Valve on/off or regulation with rising stem.
- Molded monobloc body
- Unidirectional water tightness: Flow direction indicated on the body with an arrow.
- Installation between flanges ISO PN10.
- Small retention zone.
- Gate with a beveled cutting edge guided in the body with little backlash.
- Guaranteed closure, without risk of blockage.
- Standard polished gate, soft contact with the gaskets.
- Very resistant ductile iron packing flange avoids risks of breaks.
- Operating force reduced thanks to the elasticity of the gaskets.
- Pre-formed profiled sheet metal support plates from DN50 to DN300 for accessory or kit mounting.
- Full flow when fully opened, ensuring a high flow rate with low head loss.
- Flow regulation possible for pasty or abrasive fluids with installation of a deflector.



### STANDARDS

|                     |   |        |         |            |          |         |
|---------------------|---|--------|---------|------------|----------|---------|
| <b>Design</b>       | Manufacture according to the requirements of the European directive n° 2014/68/UE «Equipment under pressure» : modulate H.<br>In option: product conform to European directive ATEX «ATmosphère EXplosive» n° 2014/34/UE. |        |         |            |          |         |
| <b>Face to face</b> | Face to face dimension according to TECOFI standard   |        |         |            |          |         |
| <b>Connection</b>   | Mounting between flanges in accordance with EN1092-2 and DIN 2501 : ISO PN10  |        |         |            |          |         |
| <b>Tests</b>        | Pressure test according to standards EN12266-1, DIN 3230 and ISO 5208.  |        |         |            |          |         |
|                     | DN  | Body   | Seat    | DN         | Body     | Seat    |
|                     | DN50-250 :  | 15 bar | 11 bar  | DN300-450: | 10.5 bar | 7.7 bar |
|                     | DN500-600:  | 6 bar  | 4.4 bar |            |          |         |

### PRODUCT APPROVALS



**Tecofi France**

83 rue Marcel Mérieux - 69960 Corbas  
Tél. +33 (0)4 72 79 05 79 - Fax. +33 (0)4 78 90 19 19  
E-mail : sales@tecofi.fr - [www.tecofi.fr](http://www.tecofi.fr)



# KNIFE GATE VALVE DUCTILE IRON BODY

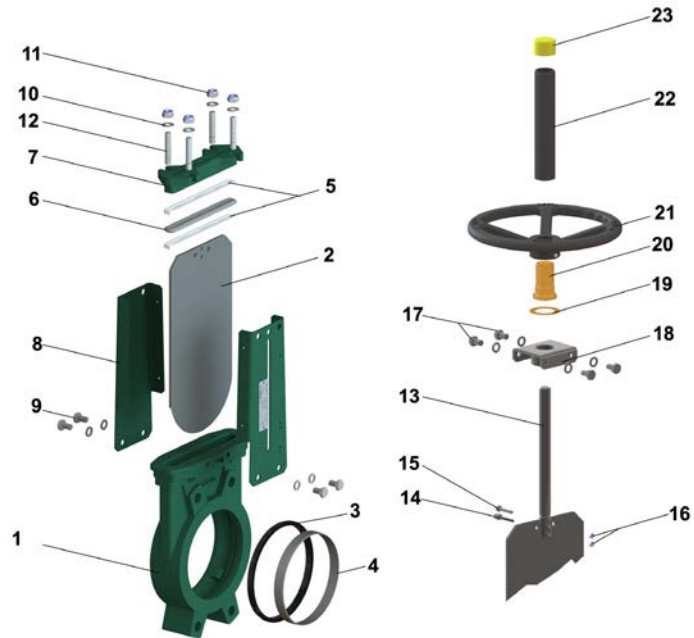
## TECHNICAL PASSPORT

VG 4400-00

### CONSTRUCTION DN50 - DN300

The valves are coated with epoxy paint to protect them against corrosion

| Component            | Coating                              |
|----------------------|--------------------------------------|
| Body (1)             | Epoxy powder RAL 6005<br>150 microns |
| Support plate (8)    | Liquid epoxy RAL 6005<br>70 microns  |
| Gland packing (7)    |                                      |
| Handwheel (21)       | Liquid epoxy RAL 9005<br>70 microns  |
| Protection tube (22) |                                      |



| Pos. | Q-ty | Description      | Material                     | Equivalences |                  |                |
|------|------|------------------|------------------------------|--------------|------------------|----------------|
|      |      |                  |                              | DIN          | ASTM             | BS             |
| 1    | 1    | Body             | Ductile iron EN-GJS-500-7    | GGG 50       | A536 65-70-50-05 | 1563 EN-JS1050 |
| 2    | 1    | Gate             | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304   | 1449-2 304 S15 |
| 3    | 1    | Seat gasket      | NBR                          |              |                  | NBR            |
| 4    | 1    | Support ring (1) | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304   | 1449-2 304 S15 |
| 5    | 2    | Packing          | PTFE                         |              |                  |                |
| 6    | 1    | O-Ring           | NBR                          |              |                  | NBR            |
| 7    | 1    | Packing gland    | Ductile iron EN-GJS-400-15   | GGG40        | A536 65-45-12    | 1563 EN-JS1030 |
| 8    | 2    | Support plate    | Steel                        |              |                  |                |
| 9    | 4    | Screw            | Stainless steel A2-70        |              |                  |                |
| 10   | 4    | Washer           | Stainless steel A2-70        |              |                  |                |
| 11   | 4    | Nut              | Stainless steel A2-70        |              |                  |                |
| 12   | 4    | Tie rod          | Stainless steel A2-70        |              |                  |                |
| 13   | 1    | Stem             | Stainless steel 13% Cr       | X12Cr13      | AISI 410         |                |
| 14   | 1    | Detection screw  | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304   | 1449-2 304 S15 |
| 15   | 1    | Screw            | Stainless steel A2-70        |              |                  |                |
| 16   | 2    | Nut              | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304   | 1449-2 304 S15 |
| 17   | 4    | Screw            | Stainless steel A2-70        |              |                  |                |
| 18   | 1    | Nut support      | Zinc plated steel            |              |                  |                |
| 19   | 1    | Support washer   | Bronze CuSn5Zn8Pb5-C         |              |                  |                |
| 20   | 1    | Nut              | Bronze CuSn5Zn8Pb5-C         |              |                  |                |
| 21   | 1    | Handwheel        | Cast iron EN-GJL-250         | GG25         | A48 class 40B    | 1452 Grade 250 |
| 22   | 1    | Protection tube  | Steel A45                    |              |                  |                |
| 23   | 1    | Plug             | Polyurethane                 |              |                  |                |

(1) - Parts missing on metal/metal sealing

### Tecofi France

83 rue Marcel Mérieux - 69960 Corbas  
Tél. +33 (0)4 72 79 05 79 - Fax. +33 (0)4 78 90 19 19  
E-mail : sales@tecofi.fr - [www.tecofi.fr](http://www.tecofi.fr)



# KNIFE GATE VALVE DUCTILE IRON BODY

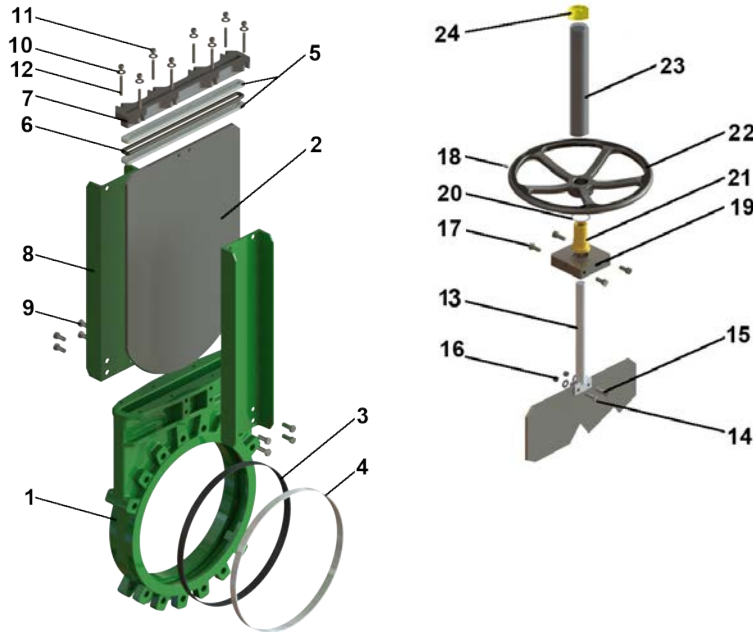
## TECHNICAL PASSPORT

VG 4400-00

### CONSTRUCTION DN350- DN600

The valves are coated with epoxy paint to protect them against corrosion

| Component            | Coating                              |
|----------------------|--------------------------------------|
| Body (1)             | Epoxy powder RAL 6005<br>150 microns |
| Support plate (8)    | Liquid epoxy RAL 6005<br>70 microns  |
| Gland packing (7)    |                                      |
| Handwheel (22)       | Liquid epoxy RAL 9005<br>70 microns  |
| Protection tube (23) |                                      |



| Pos. | Q-ty | Description      | Material                     | Equivalences |                  |                |
|------|------|------------------|------------------------------|--------------|------------------|----------------|
|      |      |                  |                              | DIN          | ASTM             | BS             |
| 1    | 1    | Body             | Ductile iron EN-GJS-500-7    | GGG 50       | A536 65-70-50-05 | 1563 EN-JS1050 |
| 2    | 1    | Gate             | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304   | 1449-2 304 S15 |
| 3    | 1    | Seat gasket      | NBR                          |              |                  | NBR            |
| 4    | 1    | Support ring (1) | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304   | 1449-2 304 S15 |
| 5    | 2    | Packing          | PTFE                         |              |                  |                |
| 6    | 1    | O-Ring           | NBR                          |              |                  | NBR            |
| 7    | 1    | Packing gland    | Ductile iron EN-GJS-400-15   | GGG40        | A536 65-45-12    | 1563 EN-JS1030 |
| 8    | 2    | Support plate    | Steel                        |              |                  |                |
| 9    | 12   | Screw            | Stainless steel A2-70        |              |                  |                |
| 10   | 8    | Washer           | Stainless steel A2-70        |              |                  |                |
| 11   | 8    | Nut              | Stainless steel A2-70        |              |                  |                |
| 12   | 8    | Tie rod          | Stainless steel A2-70        |              |                  |                |
| 13   | 1    | Stem             | Stainless steel 13% Cr       | X12Cr13      | AISI 410         |                |
| 14   | 1    | Detection screw  | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304   | 1449-2 304 S15 |
| 15   | 1    | Screw            | Stainless steel A2-70        |              |                  |                |
| 16   | 2    | Nut              | Stainless steel X5CrNi 18-10 | X5CrNi 18 10 | A 182 AISI 304   | 1449-2 304 S15 |
| 17   | 4    | Screw            | Stainless steel A2-70        |              |                  |                |
| 18   | 1    | Screw            | Stainless steel A2-70        |              |                  |                |
| 19   | 1    | Nut support      | Zinc plated steel            |              |                  |                |
| 20   | 1    | Support washer   | Bronze CuSn5Zn8Pb5-C         |              |                  |                |
| 21   | 1    | Nut              | Bronze CuSn5Zn8Pb5-C         |              |                  |                |
| 22   | 1    | Handwheel        | Cast iron EN-GJL-250         | GG25         | A48 class 40B    | 1452 Grade 250 |
| 23   | 1    | Protection tube  | Steel A45                    |              |                  |                |
| 24   | 1    | Plug             | Polyurethane                 |              |                  |                |

(1) - Parts missing on metal/metal sealing

**Tecofi France**

83 rue Marcel Mérieux - 69960 Corbas  
Tél. +33 (0)4 72 79 05 79 - Fax. +33 (0)4 78 90 19 19  
E-mail : sales@tecofi.fr - [www.tecofi.fr](http://www.tecofi.fr)

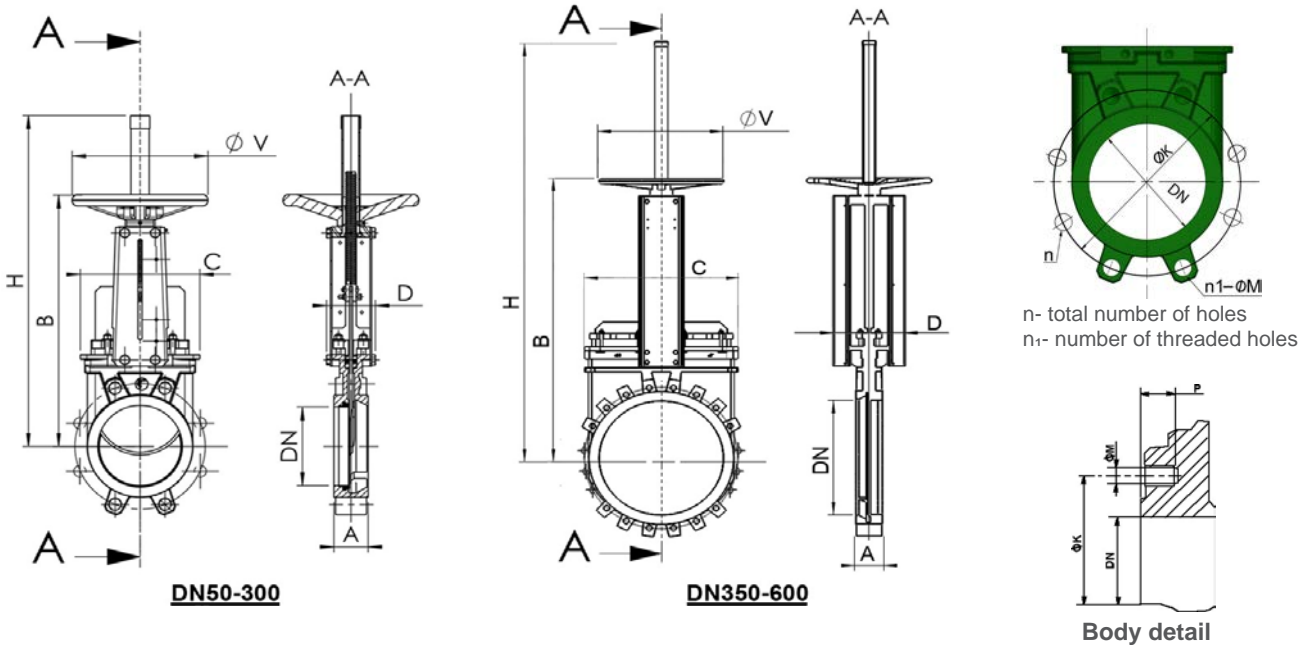


## KNIFE GATE VALVE DUCTILE IRON BODY

### TECHNICAL PASSPORT

VG 4400-00

#### DIMENSIONS



#### MOUNTING DIMENSIONS

| DN  |        | A   | B    | C   | D   | ØV  | H    | Maxi pressure (bar) | n  | n-ØM   | P  | ØK  | Stem dimensions | Number of turns | Torque Nm | Packing screw tightening torque Nm | Weight (kg) |
|-----|--------|-----|------|-----|-----|-----|------|---------------------|----|--------|----|-----|-----------------|-----------------|-----------|------------------------------------|-------------|
| mm  | inch   |     |      |     |     |     |      |                     |    |        |    |     |                 |                 |           |                                    |             |
| 50  | 2"     | 40  | 283  | 124 | 83  | 200 | 348  | 10                  | 4  | 4xM16  | 8  | 125 | Tr20x4-L        | 15              | 10        | 15                                 | 7,5         |
| 65  | 2 1/2" | 40  | 308  | 139 | 83  | 200 | 388  | 10                  | 4  | 4xM16  | 8  | 145 | Tr20x4-L        | 19              | 12        | 15                                 | 9           |
| 80  | 3"     | 50  | 333  | 154 | 83  | 200 | 413  | 10                  | 8  | 4xM16  | 9  | 160 | Tr20x4-L        | 23              | 21        | 15                                 | 10          |
| 100 | 4"     | 50  | 378  | 174 | 83  | 200 | 488  | 10                  | 8  | 4xM16  | 9  | 180 | Tr20x4-L        | 27              | 20        | 15                                 | 11,5        |
| 125 | 5"     | 50  | 423  | 189 | 93  | 250 | 564  | 10                  | 8  | 4xM16  | 9  | 210 | Tr20x4-L        | 34              | 29        | 15                                 | 15,5        |
| 150 | 6"     | 60  | 474  | 220 | 93  | 250 | 635  | 10                  | 8  | 4XM20  | 10 | 240 | Tr20x4-L        | 40              | 23        | 20                                 | 18,5        |
| 200 | 8"     | 60  | 593  | 275 | 108 | 310 | 809  | 10                  | 8  | 4XM20  | 12 | 295 | Tr25x5-L        | 42              | 41        | 20                                 | 35          |
| 250 | 10"    | 70  | 685  | 326 | 108 | 310 | 946  | 10                  | 12 | 8XM20  | 12 | 350 | Tr25x5-L        | 50              | 56        | 40                                 | 47          |
| 300 | 12"    | 70  | 792  | 380 | 108 | 310 | 1118 | 7                   | 12 | 8XM20  | 19 | 400 | Tr25x5-L        | 66              | 42        | 40                                 | 61          |
| 350 | 14"    | 96  | 900  | 438 | 290 | 500 | 1282 | 7                   | 16 | 10XM20 | 20 | 460 | Tr35x6-L        | 60              | 70        | 40                                 | 117         |
| 400 | 16"    | 100 | 978  | 494 | 290 | 500 | 1441 | 7                   | 16 | 10XM24 | 24 | 515 | Tr35x6-L        | 69              | 91        | 40                                 | 151         |
| 450 | 18"    | 106 | 1105 | 547 | 290 | 500 | 1587 | 7                   | 20 | 14XM24 | 24 | 565 | Tr35x6-L        | 77              | 115       | 40                                 | 187         |
| 500 | 20"    | 110 | 1215 | 613 | 290 | 500 | 1809 | 4                   | 20 | 14XM24 | 24 | 620 | Tr35x6-L        | 87              | 110       | 40                                 | 205         |
| 600 | 24"    | 110 | 1418 | 716 | 290 | 500 | 2060 | 4                   | 20 | 14XM27 | 24 | 725 | Tr35x6-L        | 105             | 135       | 40                                 | 292         |

Dimension A - face to face according to TECOFI standard



**Tecofi France**

83 rue Marcel Mérioux - 69960 Corbas

Tél. +33 (0)4 72 79 05 79 - Fax. +33 (0)4 78 90 19 19

E-mail : sales@tecofi.fr - [www.tecofi.fr](http://www.tecofi.fr)



# KNIFE GATE VALVE DUCTILE IRON BODY

## TECHNICAL PASSPORT

VG 4400-00

### WORKING CONDITIONS

Maximum working pressure: DN50-250 : 10 bar  
DN300-450 : 7 bar  
DN500-600 : 4 bar

Maximum working temperature : -10°C / +80°C  
(Temperature with NBR gasket in standard)

**⚠** The above mentioned pressures are only valid if the direction of assembly indicated by the arrow on the valves is observed.

#### Tightness in option

| Tightness           | Maximum temperature   |
|---------------------|-----------------------|
| Metal/metal         | Tmax : -10°C / +80°C  |
| White NBR           | Tmax : -10°C / +80°C  |
| EPDM                | Tmax : -10°C / +130°C |
| Silicone            | Tmax : -10°C / +170°C |
| FPM (Type Viton®)   | Tmax : -10°C / +170°C |
| PTFE                | Tmax : +4°C / +170°C  |
| CSM (Type Hypalon®) | Tmax : +4°C / +80°C   |

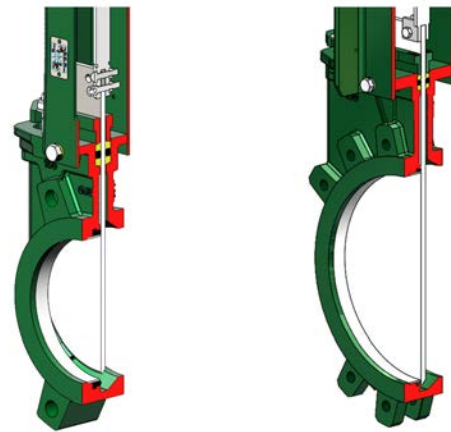
**⚠** To ensure a satisfactory tightness when using the PTFE seal, the operating pressure must not be less than 1 bar.

### Upstream/downstream and packing tightness

PTFE/elastomer

DN50-300

DN350-600



Elastomer tightness



Metal/metal tightness

### FLOW RATES

#### Kv of valves (m³/h)

| DN  |        | Operating stroke, % |         |         |         |         |         |           |          |          |          |
|-----|--------|---------------------|---------|---------|---------|---------|---------|-----------|----------|----------|----------|
| mm  | inch   | 10%                 | 20%     | 30%     | 40%     | 50%     | 60%     | 70%       | 80%      | 90%      | 100%     |
| 50  | 2"     | 1,41                | 7,57    | 18,4    | 33,27   | 52,61   | 74,78   | 98,45     | 120,81   | 149,53   | 161,66   |
| 65  | 2 1/2" | 2,41                | 8,58    | 25,4    | 49,32   | 85,77   | 121,51  | 167,85    | 219,67   | 287,45   | 317,77   |
| 80  | 3"     | 3                   | 13,1    | 46,66   | 79,57   | 122,11  | 199,58  | 276,85    | 359,84   | 432,49   | 461,98   |
| 100 | 4"     | 3,86                | 33,06   | 75,62   | 125,01  | 206,17  | 311,72  | 474,43    | 681,36   | 865,17   | 993,21   |
| 125 | 5"     | 19,64               | 47,05   | 107,47  | 177,8   | 295,95  | 444,71  | 675,13    | 973,05   | 1231,14  | 1385,15  |
| 150 | 6"     | 28,88               | 104,25  | 181,37  | 281,61  | 418,76  | 614,83  | 884,79    | 1177,11  | 1482,44  | 1613,77  |
| 200 | 8"     | 24,04               | 141,73  | 251,71  | 418,72  | 514,76  | 785,11  | 1227,16   | 1982,56  | 2491,22  | 2783,27  |
| 250 | 10"    | 115,44              | 367,52  | 693,84  | 1141,65 | 1634,09 | 2342,79 | 3243,71   | 3960,67  | 5336,19  | 5951,8   |
| 300 | 12"    | 103,12              | 535,87  | 1023,55 | 1619,5  | 2441,26 | 3508,29 | 4553,83   | 6339,29  | 7862,36  | 8373,88  |
| 350 | 14"    | 218,4               | 725,8   | 1323    | 2173,2  | 3294,8  | 4914,3  | 7120,9    | 11415,3  | 19105,4  | 24890,7  |
| 400 | 16"    | 389,1               | 1150,1  | 2024,4  | 3130,9  | 4669,6  | 7009,1  | 10355,2   | 16014,2  | 22600,5  | 26497,7  |
| 450 | 18"    | 402,7               | 1287,3  | 2402,9  | 3803,4  | 5686,8  | 8247,3  | 12248,7   | 17298,5  | 26403,9  | 29485    |
| 500 | 20"    | 617                 | 1611,1  | 2935,9  | 4625,8  | 7054,7  | 10438,9 | 15446     | 23582,8  | 35107,4  | 42784    |
| 600 | 24"    | 824,96              | 2347,72 | 4192,29 | 6367,56 | 9626,12 | 13780,4 | 19.393,58 | 26104,09 | 36144,08 | 42541,04 |

**Tecofi France**

83 rue Marcel Mérieux - 69960 Corbas  
Tél. +33 (0)4 72 79 05 79 - Fax. +33 (0)4 78 90 19 19  
E-mail : sales@tecofi.fr - [www.tecofi.fr](http://www.tecofi.fr)

