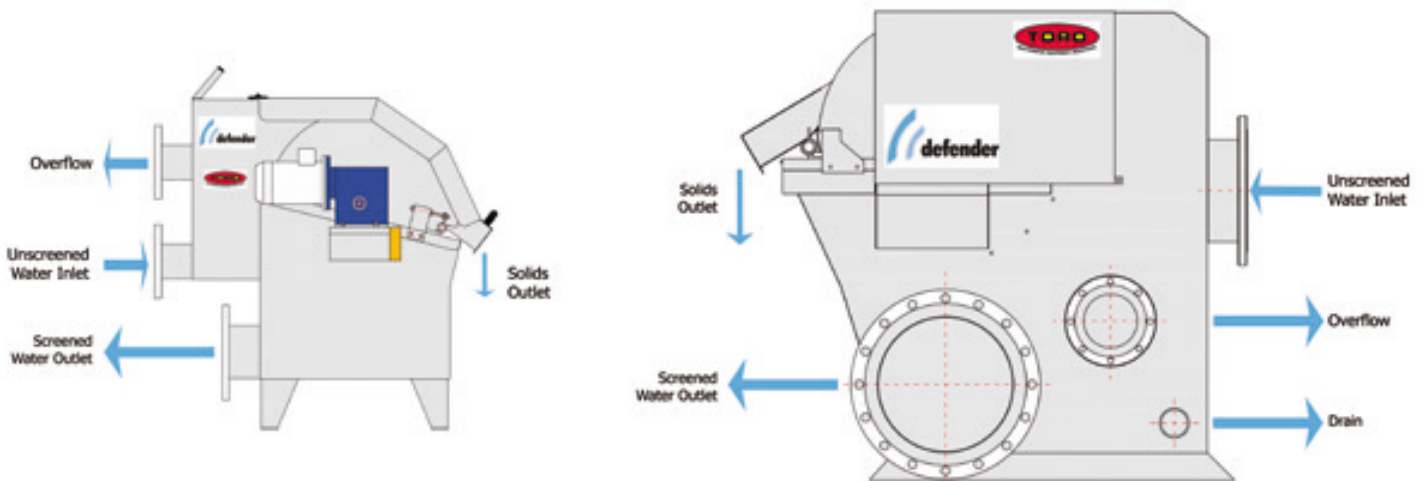


Defender<sup>®</sup> brand rotary screens: high performance filters for solid-liquid separation. Perfect for pretreatment of wastewater. Produced entirely by Toro Equipment SL.

TR Defender<sup>®</sup> 40 and 63 Ranges, with filtering capacity five times higher than a static screen.

TR Defender<sup>®</sup> HPS M and L Ranges, capable of handling four times more flow than conventional screens in its class.

## Process Description



### Operation:

Defender® Rotary Screens are pre-treatment polishing equipment in the process of removing solid-liquid waste through a filter drum formed by a grating or perforated mesh of different apertures depending on the type and amount of solids being treated.

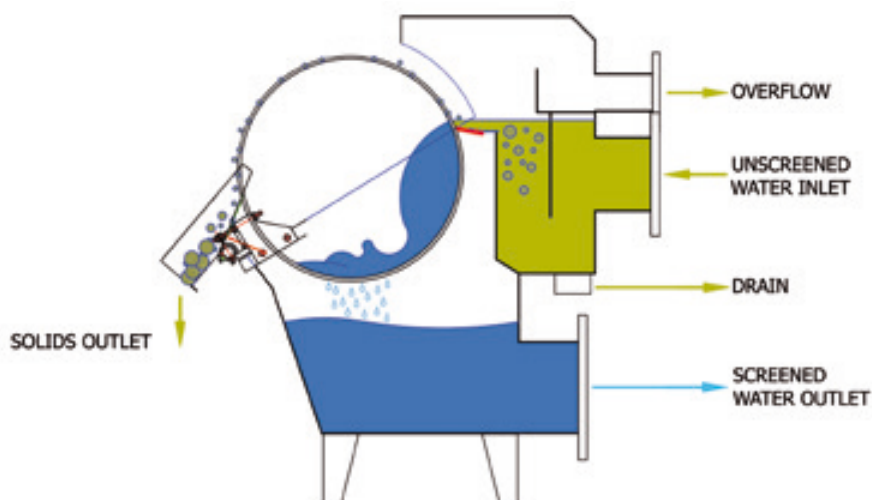
Their task is to remove the solids carried by the water in order to avoid obstructions and mechanical problems in the plant.

They are stand-alone units with self-cleaning systems and automatic drive operation.

In municipal water they frequently permit replacement of primary clarifiers, providing elimination of coarse sands and up to percentages of 30% of grease and effluent excess. The apertures used are from 0.50 to 0.15 mm.

Simple operation:

- The discharge to be treated enters through the flange located on the outside of the screen body, being uniformly distributed by the spillway and overflow over the drum filter.
- The solids are retained on the drum surface while it rotates, the discharge entering through the mesh performs a self-cleaning function as it passes again through the bottom of the drum.
- On passing through the external scraper, solids are detached from the mesh, and fall from the scraper thanks to gravity.



### Equipment Parts:

**FILTER DRUM**, made of stainless steel by the spiral winding of a triangular section on longitudinal ribs grating mesh or a drum perforated with different diameters. The base of said triangular mesh grating or diameter coincides with the external surface of the drum. This strong, rigid assembly retains the solids on the outer surface of a size greater than the opening used and prevents the formation of clusters inside.

**FILTER BODY**, in which the drum filter is fixed at its front by bearings. At the rear it has an unscreened water receiving tank that distributes it in laminar flow.

**CLEANING SCRAPER**, which removes the solids deposited on the surface of the filter drum.

**DRIVE UNIT** consists of a reduction-gear motor coupled directly on the filter drum shaft providing this with a rotational movement.

**SCREENED WATER RESERVOIR**, is situated below the filter body and collects the filtrate which is extracted through a flanged pipe.

**CLEANING SYSTEM**, located inside the filter drum, fitted with jets that project water under pressure on the inner face of the cylinder to achieve complete cleaning.





# Characteristics

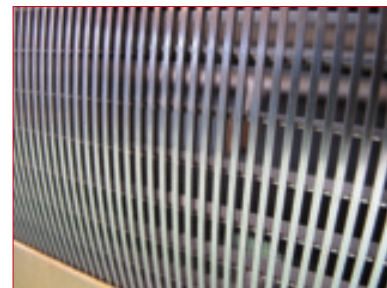
## Advantages and Applications:

- Made of stainless steel type 304 or 316.
- Includes safety and splash-suppression lid as a standard feature in the 40 Range.
- Emergency stop and solenoid valve for cleaning.
- Internal cleaning system with jets.
- External cleaning system with scraper.
- The equipment is guaranteed against defects in materials and workmanship under normal use and maintenance.
- Toro Equipment provides commissioning and after sales service, contact us.
- Applicable to any wastewater pre-treatment:
  - Trash collection.
  - Foodstuff manufacture.
  - Breweries and wine cellars.
  - Meat processing.
  - Canneries.
  - Dairies/Creameries.
  - Tanneries and textile industries.
  - Municipal wastewater.
  - Fish processing.
  - High oil content applications.
  - Washhouses.
  - Bio-diesel production.

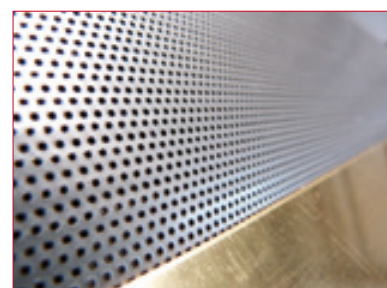
## Recommendations: ☺ Recommended ☹ Not Recommended 😐 Indifferent

| GRATING MESH ▼▼ | PERFORATED MESH Ø | SOLIDS                               |
|-----------------|-------------------|--------------------------------------|
| ☹               | ☺                 | Scales - Gelatinous bodies           |
| ☹               | ☺                 | Film, plastic...                     |
| ☹               | ☺                 | Long fibres - e.g. hair, bristles... |
| ☺               | ☹                 | Grease *                             |
| ☺               | ☺                 | MSS                                  |
| ☹               | ☺                 | Sands                                |
| ☹               | ☺                 | Wool washing                         |

\* With pig waste clean mesh with water temperature <50°

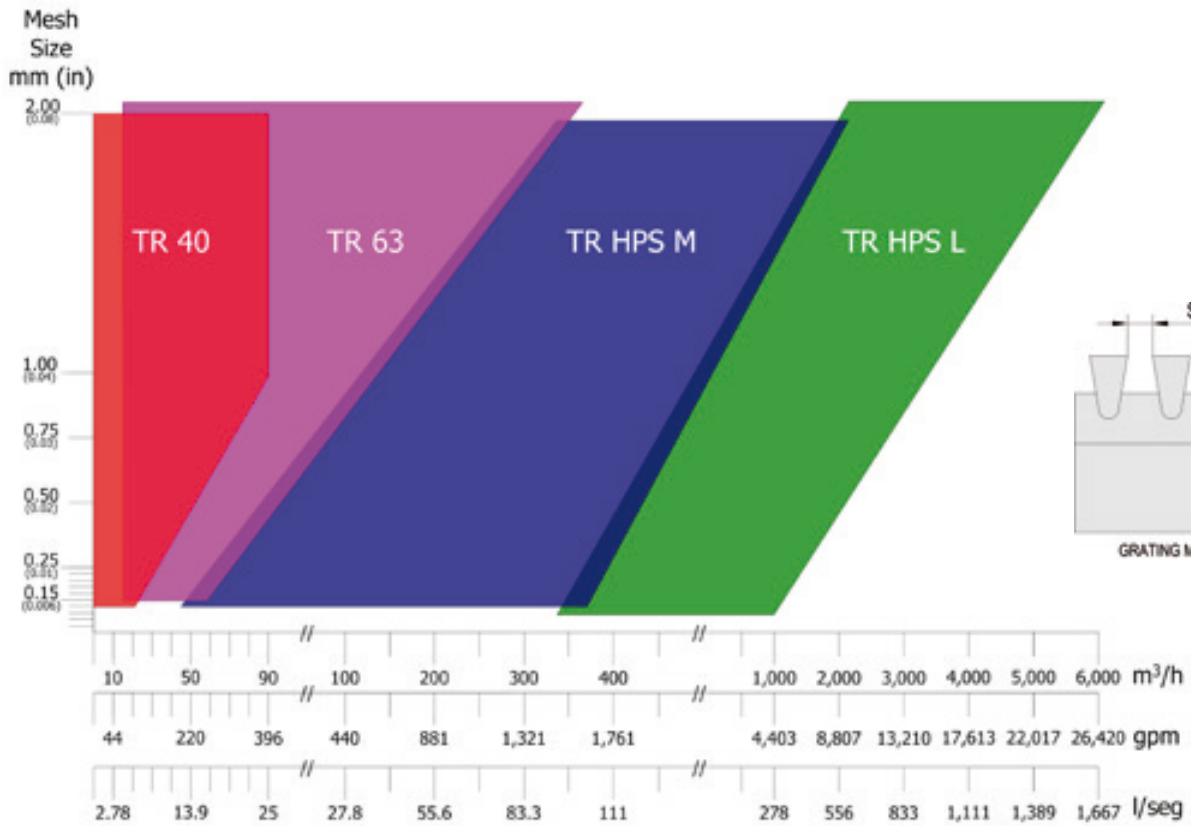


Grating Mesh

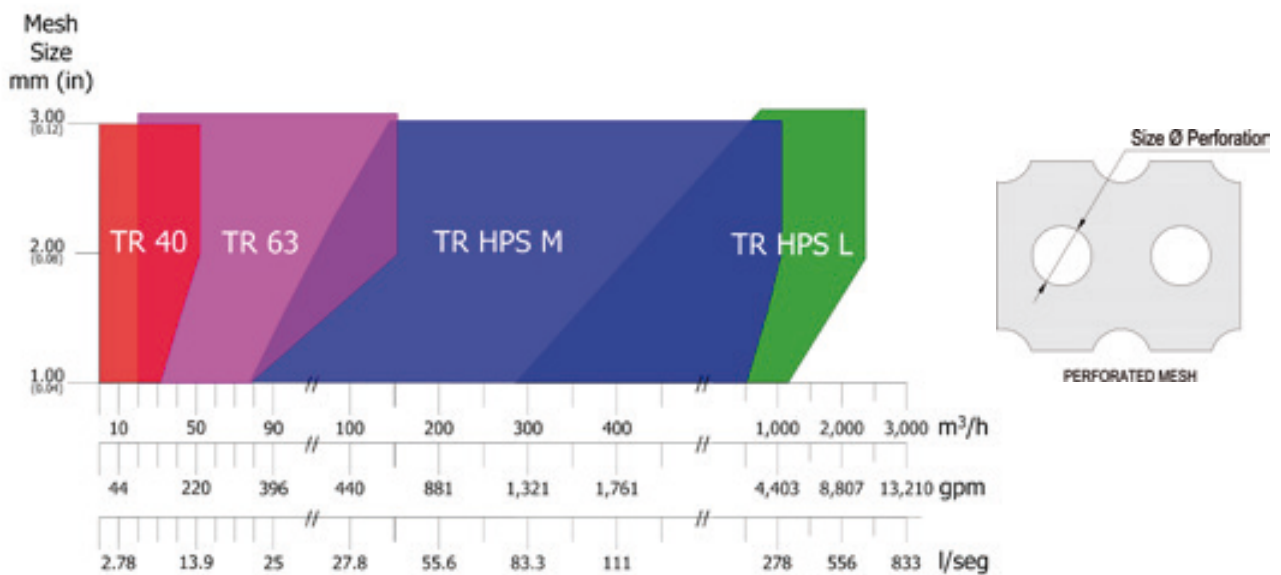


Perforated Mesh

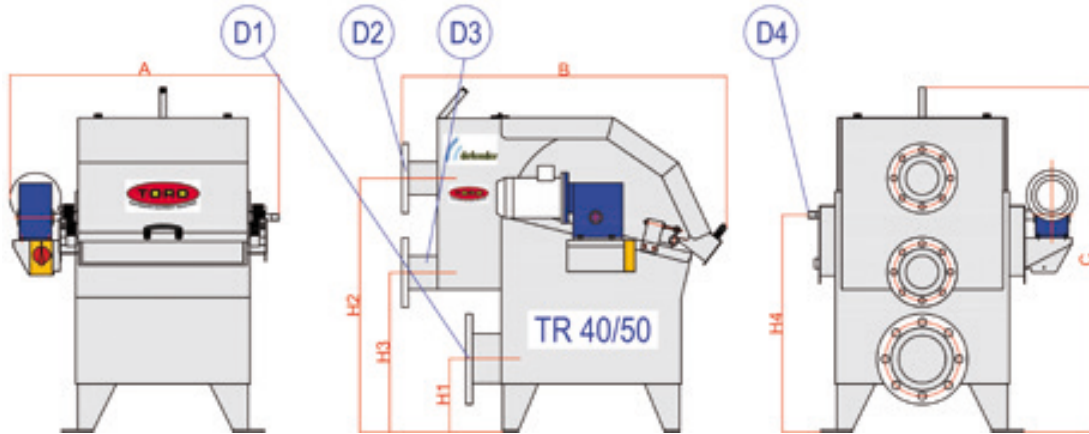
Grating Mesh Screen:



Perforated Mesh Screen:



# 40 Range Rotary Screen Technical Specifications



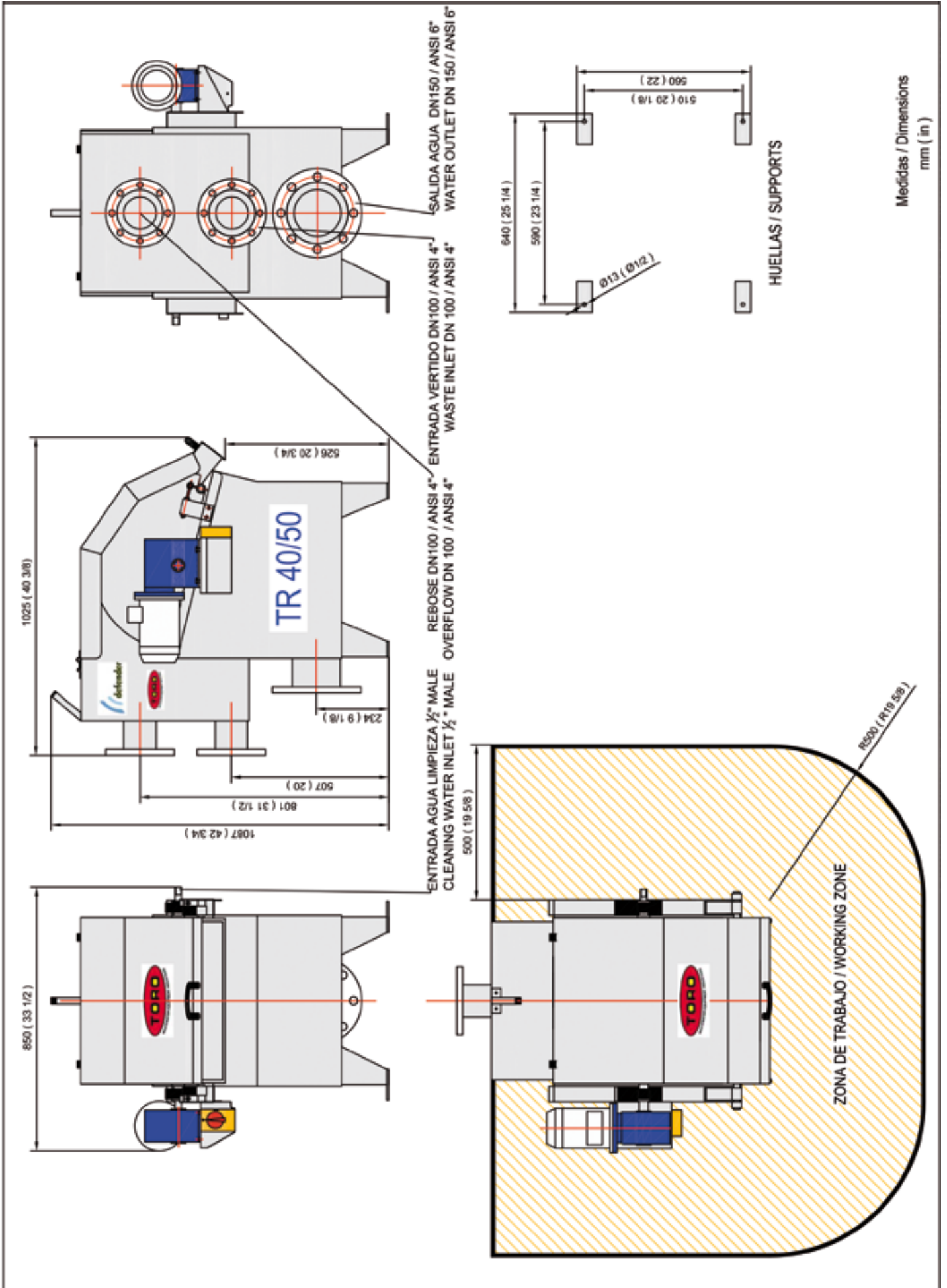
| 40 Range - Technical Specifications, mm (in) |                 |                 |                |                   |                   |                   |                   |                |                   |                 |                   |             |          |                 |
|--|-----------------|-----------------|----------------|-------------------|-------------------|-------------------|-------------------|----------------|-------------------|-----------------|-------------------|-------------|----------|-----------------|
| Model  | Drum Diametre   | Drum Length     | Power Kw / HP  | A                 | B                 | C                 | Outlet            |                | Overflow          |                 | Inlet             |             | Cleaning |                 |
|  |                 |                 |                |                   |                   |                   | D1                | H1             | D2                | H2              | D3                | H3          | D4       | H4              |
| TR 40/25                                     | 400<br>(15 3/4) | 250<br>(9 7/8)  | 0.25<br>(0.33) | 600<br>(23 5/8)   | 1,025<br>(40 3/8) | 1,087<br>(42 3/4) | DN 100<br>ANSI 4" | 209<br>(8 1/8) | DN 100<br>ANSI 4" | 801<br>(31 1/2) | DN 100<br>ANSI 4" | 507<br>(20) | 1/2"     | 678<br>(26 3/4) |
| TR 40/50                                     | 400<br>(15 3/4) | 500<br>(19 5/8) | 0.25<br>(0.33) | 850<br>(33 1/2)   | 1,025<br>(40 3/8) | 1,087<br>(42 3/4) | DN 150<br>ANSI 6" | 234<br>(9 1/8) | DN 100<br>ANSI 4" | 801<br>(31 1/2) | DN 100<br>ANSI 4" | 507<br>(20) | 1/2"     | 678<br>(26 3/4) |
| TR 40/75                                     | 400<br>(15 3/4) | 750<br>(29 1/2) | 0.25<br>(0.33) | 1,100<br>(43 1/4) | 1,025<br>(40 3/8) | 1,087<br>(42 3/4) | DN 200<br>ANSI 8" | Inferior       | DN 100<br>ANSI 4" | 801<br>(31 1/2) | DN 150<br>ANSI 6" | 532<br>(21) | 1/2"     | 678<br>(26 3/4) |



| 40 Range - Clean Water Peak Flows, m³/h (US gpm) |                          |                |                |                |                |                |                            |                |                |
|--|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------------------|----------------|----------------|
| Mesh Size  | Grating Mesh ▼▼, mm (in) |                |                |                |                |                | Perforated Mesh Ø, mm (in) |                |                |
|  | 0.15<br>(0.006)          | 0.25<br>(0.01) | 0.50<br>(0.02) | 0.75<br>(0.03) | 1.00<br>(0.04) | 2.00<br>(0.08) | 1.00<br>(0.04)             | 2.00<br>(0.08) | 3.00<br>(0.12) |
| TR 40/25   | 7<br>(30)                | 11<br>(47)     | 19<br>(83)     | 25<br>(110)    | 30<br>(132)    | 30<br>(132)    | 9<br>(38)                  | 17<br>(74)     | 17<br>(74)     |
| TR 40/50   | 14<br>(61)               | 21<br>(94)     | 38<br>(165)    | 50<br>(220)    | 60<br>(264)    | 60<br>(264)    | 18<br>(78)                 | 35<br>(153)    | 35<br>(153)    |
| TR 40/75   | 21<br>(91)               | 32<br>(141)    | 56<br>(248)    | 75<br>(331)    | 90<br>(397)    | 90<br>(397)    | 27<br>(118)                | 52<br>(231)    | 52<br>(231)    |

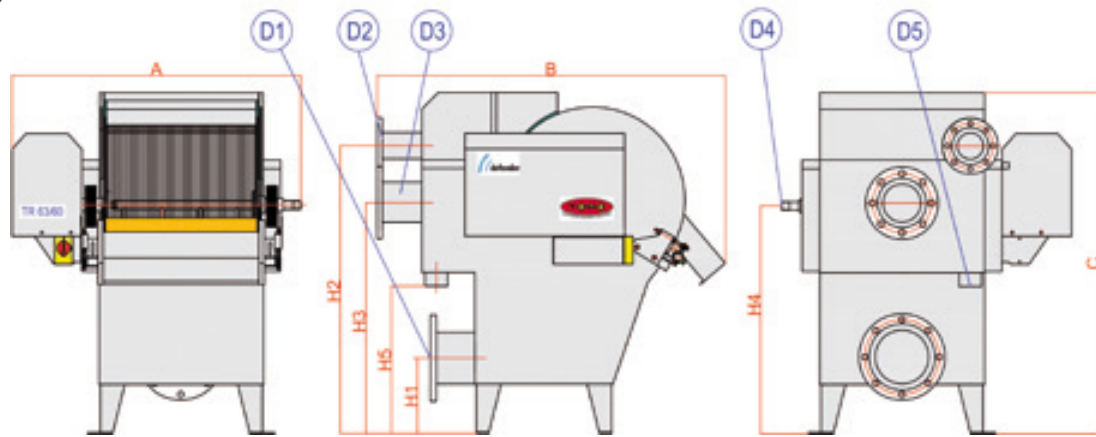
**NOTES:**

- Flows specified for clean water. A reduction should be applied according to the type and amount of solids removed. Consult our technical department.
- The dimensions and technical specifications may vary slightly due to normal product development by the engineering department of Toro Equipment SL
- Special mesh size of 1.5 mm, 2.5 mm and 3 mm are available on request. Ask for prices and delivery times.
- Request specifications sheet when ordering.
- You can find more specific figures in our website, [www.toroequipment.com](http://www.toroequipment.com)





# 63 Range Rotary Screen Technical Specifications



63 Range - Technical Specifications, mm (in)

| Model     | Drum Diametre   | Drum Length       | Power Kw / HP  | A                 | B                 | C             | Outlet             |                 | Overflow          |                   | Inlet              |                 | Cleaning       |                 | Drain          |                 |
|-----------|-----------------|-------------------|----------------|-------------------|-------------------|---------------|--------------------|-----------------|-------------------|-------------------|--------------------|-----------------|----------------|-----------------|----------------|-----------------|
|           |                 |                   |                |                   |                   |               | D1                 | H1              | D2                | H2                | D3                 | H3              | D4             | H4              | D5             | H5              |
| TR 63/60  | 630<br>(24 3/4) | 600<br>(23 5/8)   | 0.55<br>(0.75) | 1,140<br>(44 7/8) | 1,375<br>(54 1/8) | 1,345<br>(53) | DN 250<br>ANSI 10" | 322<br>(12 5/8) | DN 100<br>ANSI 4" | 1,135<br>(44 5/8) | DN 200<br>ANSI 8"  | 910<br>(35 7/8) | 1"<br>(35 1/2) | 903<br>(35 1/2) | 3"<br>(22 7/8) | 580<br>(22 7/8) |
| TR 63/90  | 630<br>(24 3/4) | 900<br>(35 3/8)   | 0.55<br>(0.75) | 1,440<br>(56 3/4) | 1,375<br>(54 1/8) | 1,345<br>(53) | DN 250<br>ANSI 10" | 322<br>(12 5/8) | DN 100<br>ANSI 4" | 1,135<br>(44 5/8) | DN 200<br>ANSI 8"  | 910<br>(35 7/8) | 1"<br>(35 1/2) | 903<br>(35 1/2) | 3"<br>(22 7/8) | 580<br>(22 7/8) |
| TR 63/120 | 630<br>(24 3/4) | 1,200<br>(47 2/8) | 0.75<br>(1.00) | 1,740<br>(68 1/2) | 1,375<br>(54 1/8) | 1,345<br>(53) | DN 300<br>ANSI 12" | 347<br>(13 5/8) | DN 100<br>ANSI 4" | 1,135<br>(44 5/8) | DN 250<br>ANSI 10" | 910<br>(35 7/8) | 1"<br>(35 1/2) | 903<br>(35 1/2) | 3"<br>(22 7/8) | 580<br>(22 7/8) |
| TR 63/150 | 630<br>(24 3/4) | 1,500<br>(59)     | 0.75<br>(1.00) | 2,040<br>(80 3/8) | 1,375<br>(54 1/8) | 1,345<br>(53) | DN 350<br>ANSI 14" | 372<br>(14 5/8) | DN 100<br>ANSI 4" | 1,135<br>(44 5/8) | DN 300<br>ANSI 12" | 910<br>(35 7/8) | 1"<br>(35 1/2) | 903<br>(35 1/2) | 3"<br>(22 7/8) | 580<br>(22 7/8) |



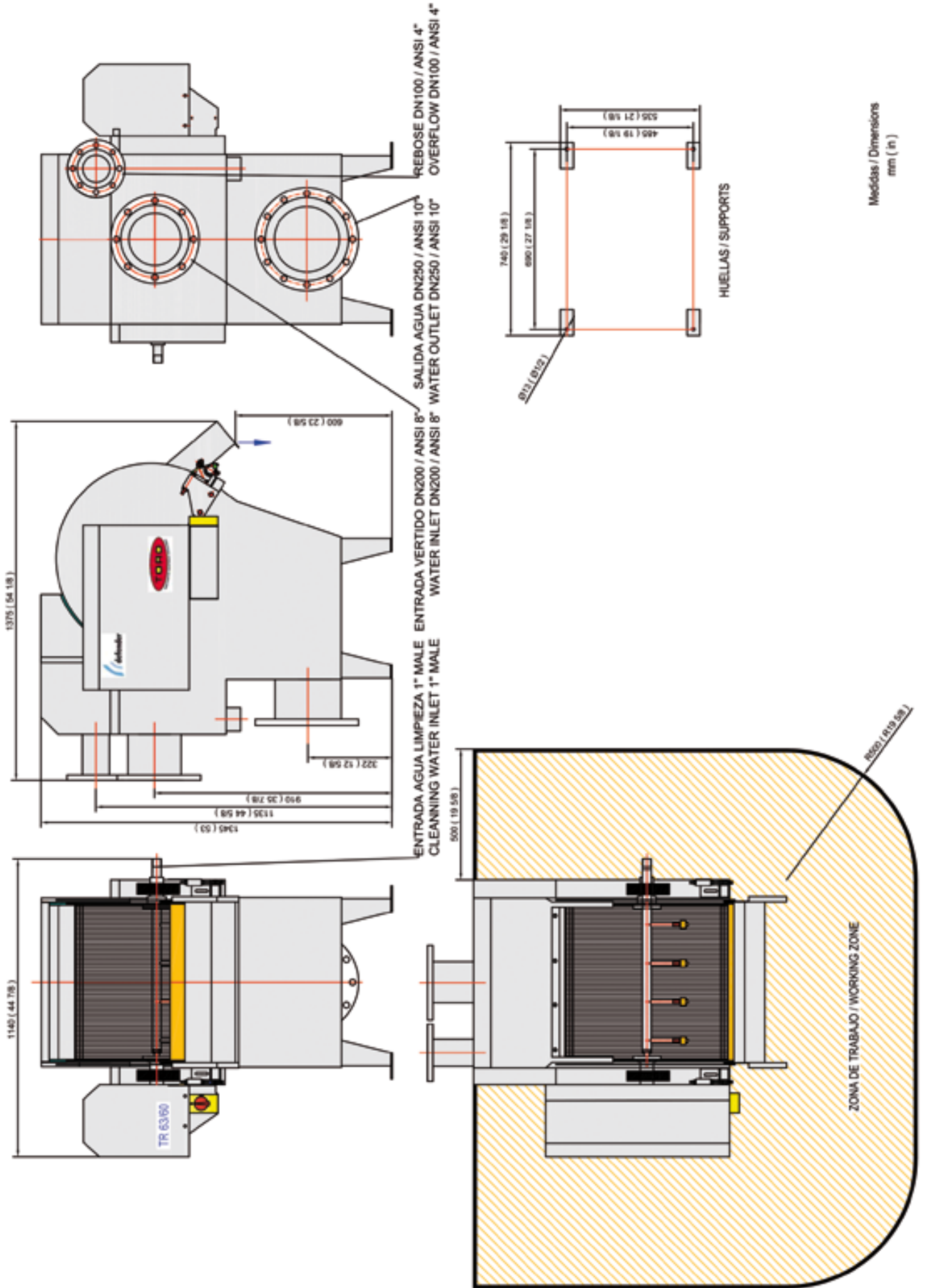
63 Range - Clean Water Peak Flows, m³/h (US gpm)

| Mesh Size | Grating Mesh ▼▼, mm (in) |                |                |                |                |                | Perforated Mesh Ø, mm (in) |                |                |
|-----------|--------------------------|----------------|----------------|----------------|----------------|----------------|----------------------------|----------------|----------------|
|           | 0.15<br>(0.006)          | 0.25<br>(0.01) | 0.50<br>(0.02) | 0.75<br>(0.03) | 1.00<br>(0.04) | 2.00<br>(0.08) | 1.00<br>(0.04)             | 2.00<br>(0.08) | 3.00<br>(0.12) |
| TR 63/60  | 23<br>(101)              | 36<br>(159)    | 63<br>(278)    | 84<br>(370)    | 101<br>(444)   | 144<br>(635)   | 29<br>(129)                | 57<br>(252)    | 57<br>(252)    |
| TR 63/90  | 35<br>(152)              | 54<br>(239)    | 95<br>(419)    | 127<br>(558)   | 152<br>(670)   | 217<br>(957)   | 44<br>(194)                | 86<br>(380)    | 86<br>(380)    |
| TR 63/120 | 46<br>(203)              | 72<br>(319)    | 127<br>(558)   | 169<br>(744)   | 203<br>(892)   | 290<br>(1,276) | 59<br>(259)                | 115<br>(507)   | 115<br>(507)   |
| TR 63/150 | 58<br>(254)              | 91<br>(400)    | 159<br>(699)   | 212<br>(932)   | 254<br>(1,118) | 363<br>(1,598) | 74<br>(324)                | 144<br>(635)   | 144<br>(635)   |

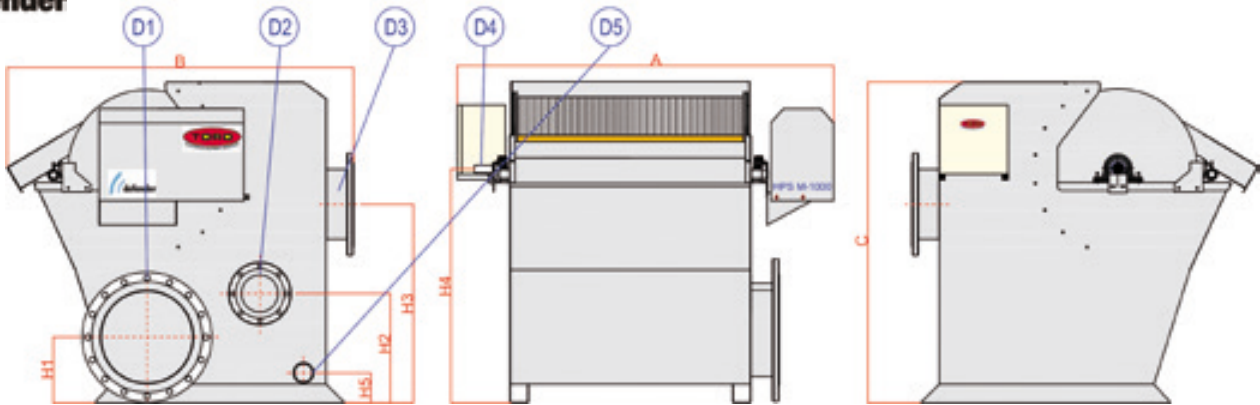
NOTES:

- Flows specified for clean water. A reduction should be applied according to the type and amount of solids removed. Consult our technical department.
- The dimensions and technical specifications may vary slightly due to normal product development by the engineering department of Toro Equipment SL.
- Special mesh size of 1.5 mm, 2.5 mm and 3 mm are available on request. Ask for prices and delivery times.
- Request specifications sheet when ordering.
- You can find more specific figures in our website, [www.toroequipment.com](http://www.toroequipment.com)





# M/L Range TR HPS Technical Specifications



TR HPS - Technical Specifications, mm (in)

| Model  | Drum<br>Diameter | Drum<br>Length    | Power<br>Kw / HP | A                  | B                 | C                 | Outlet                   |                 | Overflow           |                 | Inlet                    |                   | Cleaning |                   | Drain |                |
|--------|------------------|-------------------|------------------|--------------------|-------------------|-------------------|--------------------------|-----------------|--------------------|-----------------|--------------------------|-------------------|----------|-------------------|-------|----------------|
|        |                  |                   |                  |                    |                   |                   | D1                       | H1              | D2                 | H2              | D3                       | H3                | D4       | H4                | D5    | H5             |
| M-500  | 630<br>(24 3/4)  | 500<br>(19 5/8)   | 0.55<br>(0.75)   | 1,140<br>(44 7/8)  | 1,540<br>(60 5/8) | 1,395<br>(54 7/8) | DN 350<br>ANSI 14"       | 259<br>(10 1/4) | DN 150<br>ANSI 6"  | 474<br>(18 5/8) | DN 250<br>ANSI 10"       | 838<br>(32)       | 1"       | 1,015<br>(40)     | 3"    | 129<br>(5 1/8) |
| M-1000 | 630<br>(24 3/4)  | 1,000<br>(39 3/8) | 0.55<br>(0.75)   | 1,640<br>(64 5/8)  | 1,540<br>(60 5/8) | 1,395<br>(54 7/8) | DN 400<br>ANSI 16"       | 285<br>(11 1/4) | DN 150<br>ANSI 6"  | 474<br>(18 5/8) | DN 300<br>ANSI 12"       | 862<br>(33 7/8)   | 1"       | 1,015<br>(40)     | 3"    | 129<br>(5 1/8) |
| M-1500 | 630<br>(24 3/4)  | 1,500<br>(59)     | 0.75<br>(1.00)   | 2,140<br>(84 1/4)  | 1,540<br>(60 5/8) | 1,395<br>(54 7/8) | 2x DN 400<br>2x ANSI 16" | 285<br>(11 1/4) | DN 150<br>ANSI 6"  | 474<br>(18 5/8) | 2x DN 300<br>2x ANSI 12" | 862<br>(33 7/8)   | 1"       | 1,015<br>(40)     | 3"    | 129<br>(5 1/8) |
| L-1500 | 914<br>(36)      | 1,500<br>(59)     | 0.75<br>(1.00)   | 2,150<br>(84 5/8)  | 2,420<br>(95 1/4) | 1,996<br>(78 5/8) | 2x DN 400<br>2x ANSI 16" | 305<br>(12)     | DN 200<br>ANSI 8"  | 680<br>(26 3/4) | 2x DN 400<br>2x ANSI 16" | 1,179<br>(46 3/8) | 1"       | 1,452<br>(57 1/8) | 3"    | 154<br>(6 1/4) |
| L-2000 | 914<br>(36)      | 2,000<br>(78 3/4) | 0.75<br>(1.00)   | 2,650<br>(104 3/8) | 2,420<br>(95 1/4) | 1,996<br>(78 5/8) | 2x DN 500<br>2x ANSI 20" | 355<br>(14)     | DN 300<br>ANSI 12" | 680<br>(26 3/4) | 2x DN 500<br>2x ANSI 20" | 1,229<br>(48 1/4) | 1"       | 1,452<br>(57 1/8) | 3"    | 154<br>(6 1/4) |

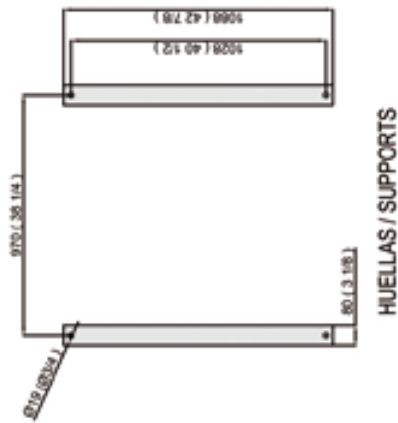
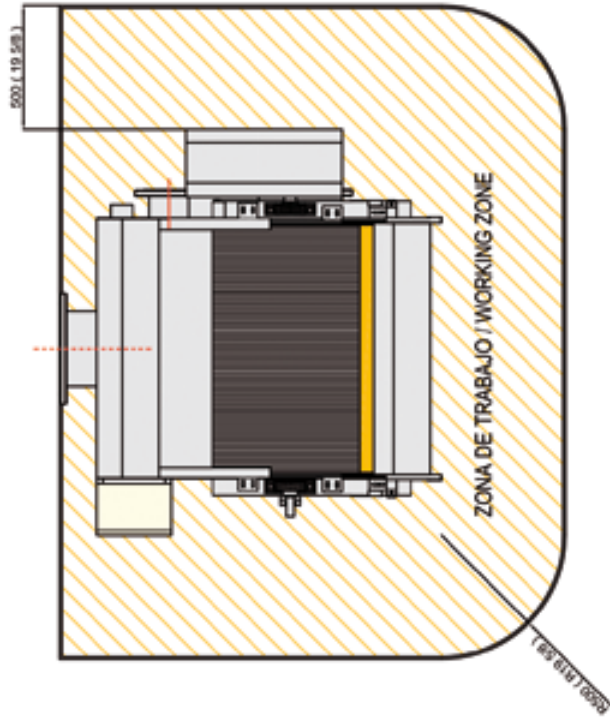
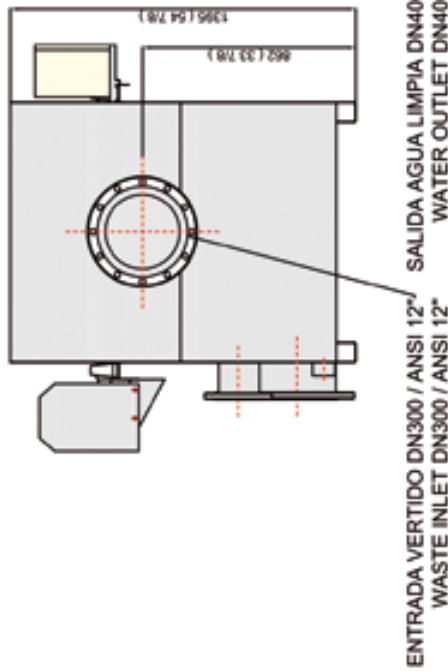
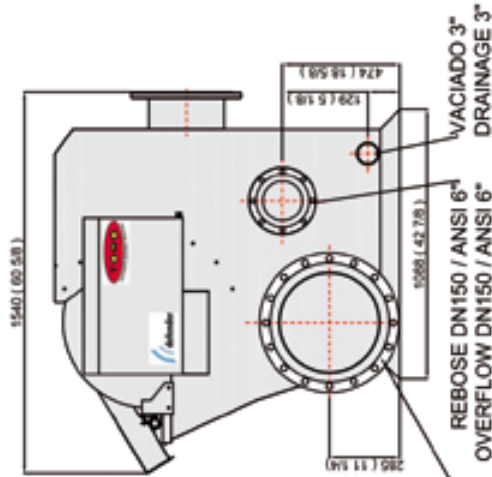
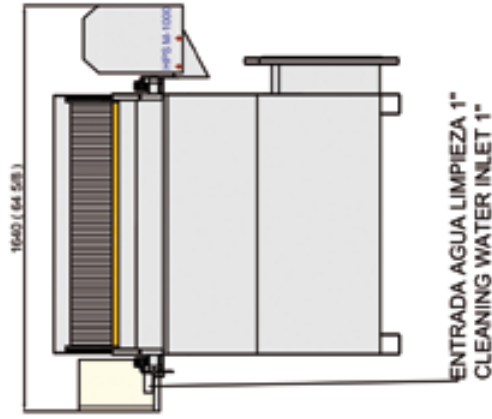


TR HPS - Clean Water Peak Flows, m³/h (US gpm)

| Mesh Size | Grating Mesh ▼▼, mm (in) |                  |                   |                   |                   |                   | Perforated Mesh Ø, mm (in) |                   |                   |
|-----------|--------------------------|------------------|-------------------|-------------------|-------------------|-------------------|----------------------------|-------------------|-------------------|
|           | 0.15<br>(0.006)          | 0.25<br>(0.01)   | 0.50<br>(0.02)    | 0.75<br>(0.03)    | 1.00<br>(0.04)    | 2.00<br>(0.08)    | 1.00<br>(0.04)             | 2.00<br>(0.08)    | 3.00<br>(0.12)    |
| M-500     | 133<br>(584)             | 208<br>(918)     | 365<br>(1,606)    | 486<br>(2,141)    | 584<br>(2,569)    | 834<br>(3,670)    | 170<br>(749)               | 332<br>(1,462)    | 332<br>(1,462)    |
| M-1000    | 269<br>(1,185)           | 423<br>(1,861)   | 740<br>(3,258)    | 987<br>(4,343)    | 1,184<br>(5,212)  | 1,691<br>(7,446)  | 344<br>(1,512)             | 671<br>(2,955)    | 671<br>(2,955)    |
| M-1500    | 405<br>(1,785)           | 637<br>(2,805)   | 1,115<br>(4,910)  | 1,487<br>(6,546)  | 1,784<br>(7,855)  | 2,549<br>(11,222) | 518<br>(2,280)             | 1,011<br>(4,453)  | 1,011<br>(4,453)  |
| L-1500    | 699<br>(3,079)           | 1,099<br>(4,838) | 1,923<br>(8,466)  | 2,564<br>(11,288) | 3,077<br>(13,546) | 4,395<br>(19,351) | 893<br>(3,932)             | 1,744<br>(7,679)  | 1,744<br>(7,679)  |
| L-2000    | 934<br>(4,114)           | 1,468<br>(6,466) | 2,570<br>(11,315) | 3,426<br>(15,086) | 4,112<br>(18,104) | 5,874<br>(25,862) | 1,193<br>(5,254)           | 2,331<br>(10,263) | 2,331<br>(10,263) |

NOTES:

- Flows specified for clean water. A reduction should be applied according to the type and amount of solids removed. Consult our technical department.
- Minimum flow: 60% of rated flow. MSS design concentration 10,000 mg/l.
- The dimensions and technical specifications may vary slightly due to normal product development by the engineering department of Toro Equipment SL.
- Special mesh size of 1.5 mm, 2.5 mm and 3 mm are available on request. Ask for prices and delivery times.
- Request specifications sheet when ordering.
- You can find more specific figures in our website, [www.toroequipment.com](http://www.toroequipment.com)



# Equipment

## Equipment:

Standard



Optional



| BODY:   | TR                                  |                                     | TR HPS   |                                     |
|---|-------------------------------------|-------------------------------------|--|-------------------------------------|
|   | 40                                  | 63                                  | M  | L                                   |
| Material AISI-304   |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Material AISI-316   |                                     |                                     | <input type="checkbox"/>                                       |                                     |
| Connection flanges ISO/ANSI   |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Screw couplings   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>                                       | -                                   |
| Protective cover  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>                                       | -                                   |
| Protective lid clamping bracket                                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>                                       | -                                   |
| Side shields  |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Double/triple inlet flange  | -                                   | <input type="checkbox"/>            | <input type="checkbox"/>                                       | <input type="checkbox"/>            |
| Overflow chamber  |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Drain in inlet chamber 2 "  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                            | <input checked="" type="checkbox"/> |
| Motor housing   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                            | <input checked="" type="checkbox"/> |
| Flow entry baffle   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>                            | <input checked="" type="checkbox"/> |
| Solids scraper adjustment   |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Lifting eyebolts  |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Anchoring legs  |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Blast finish 125-250 µm<br>Microspheres B60                           |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| <b>CLEANING SYSTEM:</b> <input checked="" type="checkbox"/>           |                                     |                                     |  |                                     |
| Solids scraper  |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Cleaning Kit (Solenoid valve, cleaning jets,<br>manual cut-off valve) |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| <b>DRUM FILTER:</b> <input checked="" type="checkbox"/>               |                                     |                                     |  |                                     |
| Material AISI-304   |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| Material AISI-316   |                                     |                                     | <input type="checkbox"/>                                       |                                     |
| Grating mesh  |                                     |                                     | <input checked="" type="checkbox"/> / <input type="checkbox"/> |                                     |
| Perforated mesh   |                                     |                                     | <input checked="" type="checkbox"/> / <input type="checkbox"/> |                                     |
| <b>DOCUMENTATION:</b> <input checked="" type="checkbox"/>             |                                     |                                     |  |                                     |
| User manuals in specific language                                     |                                     |                                     | <input checked="" type="checkbox"/>                            |                                     |
| ISO standard documentation  |                                     |                                     | <input type="checkbox"/>                                       |                                     |

Connection flanges ISO/ANSI



Lifting eyebolts



Anchoring legs



Solids scraper adjustment



Documentation



- To achieve high quality products and services, Toro Equipment has developed and implemented a Quality Management System in accordance with the UNE-EN-ISO 9001 standard, adapted to company needs and adopting continuous improvement methodology to attain business excellence.
- The system is based on continuous monitoring of all activities undertaken in the company:
  - Design
  - Manufacture
  - After sales service

### NOTES:

- Optional equipment may carry an additional cost on the product. Consult our technical department.
- The standard and optional equipment may vary slightly due to normal product development by the engineering department of Toro Equipment SL
- When ordering ask about your equipment specifications.
- You can find more specific figures in our website, [www.toroequipment.com](http://www.toroequipment.com)



## Equipment:

Standard



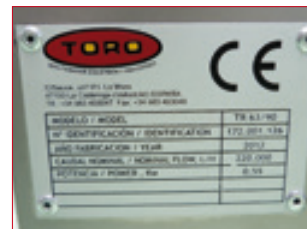
Optional



| CERTIFICATES:                            | TR                       |                                     | TR HPS                              |   |
|--|--------------------------|-------------------------------------|-------------------------------------|---|
|  | 40                       | 63                                  | M                                   | L |
| EC certificate                           |                          | <input checked="" type="checkbox"/> |                                     |   |
| Certificate of origin                    |                          | <input type="checkbox"/>            |                                     |   |
| Factory test certificate                 |                          | <input checked="" type="checkbox"/> |                                     |   |
| Quality certificate                      |                          | <input checked="" type="checkbox"/> |                                     |   |
| Materials certificate                    |                          | <input type="checkbox"/>            |                                     |   |
| Welding certificate                      |                          | <input type="checkbox"/>            |                                     |   |
| Specific hydraulic certificate           |                          | <input type="checkbox"/>            |                                     |   |
| <b>ELECTRIC PANEL:</b>                   |                          |                                     |                                     |   |
| Incorporation of electrical panel        | <input type="checkbox"/> |                                     | <input checked="" type="checkbox"/> |   |
| Start/Stop                               |                          | <input checked="" type="checkbox"/> |                                     |   |
| Automatic programming of cleaning system |                          | <input checked="" type="checkbox"/> |                                     |   |
| Lid safety limit switch protection       |                          | <input checked="" type="checkbox"/> |                                     |   |
| Protective lid clamping bracket          |                          | <input checked="" type="checkbox"/> |                                     |   |
| Emergency Stop                           |                          | <input checked="" type="checkbox"/> |                                     |   |
| <b>DRIVE SYSTEM:</b>                     |                          |                                     |                                     |   |
| Multi-voltage motor                      |                          | <input checked="" type="checkbox"/> |                                     |   |
| ATEX Motor                               |                          | <input type="checkbox"/>            |                                     |   |
| Motor to NEMA standards, CSA, etc ...    |                          | <input type="checkbox"/>            |                                     |   |
| <b>ADDITIONAL ITEMS:</b>                 |                          |                                     |                                     |   |
| Automatic starting system (Start/Stop)   |                          | <input type="checkbox"/>            |                                     |   |
| Emergency Stop                           |                          | <input checked="" type="checkbox"/> |                                     |   |
| Packed in fumigated crate                |                          | <input type="checkbox"/>            |                                     |   |
| Shrink wrapping                          |                          | <input checked="" type="checkbox"/> |                                     |   |
| Containerisation                         |                          | <input type="checkbox"/>            |                                     |   |
| Lifting structure                        |                          | <input type="checkbox"/>            |                                     |   |
| Solids collection hopper AISI-304        |                          | <input type="checkbox"/>            |                                     |   |
| Solids collection hopper AISI-316        |                          | <input type="checkbox"/>            |                                     |   |
| Solids collection hopper AISI-GRP        |                          | <input type="checkbox"/>            |                                     |   |
| Defender® Screw Compactor                |                          | <input type="checkbox"/>            |                                     |   |
| Defender® Sand Separator                 |                          | <input type="checkbox"/>            |                                     |   |



Certificates



- The standard electric panel includes Start/Stop, limit switch to stop the drum when the protective lid is raised, securing support, emergency stop and automatic programming of the cleaning system.
- Start/Stop, start or stop the machine in the presence or absence of flow. Level sensing device that activates the machine when water for treatment is detected.

Solids collection hopper GPR



Solids collection hopper AISI



Packed in fumigated crate



Defender® Screw Compactor



### NOTES:

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- The standard and optional equipment may vary slightly due to normal product development by the engineering department of Toro Equipment SL
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# Implementation

## Implementation:

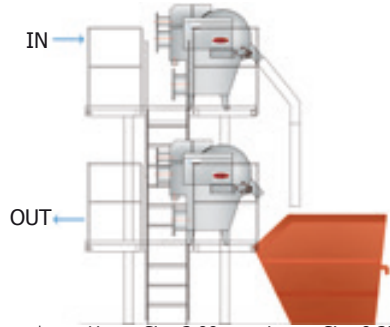
- HPS High Capacity Rotary Screens require a minimum flow for effective operation.
- Rotary Screens in the 40 and 63 Ranges work with any flow rate up to their maximum capacity.
- The screens deliver the solids by gravity through a hopper or compactor screw for which reason it is recommended to study the installation height of the equipment for discharge, collection and processing of such solids.



Series/Parallel Mounting

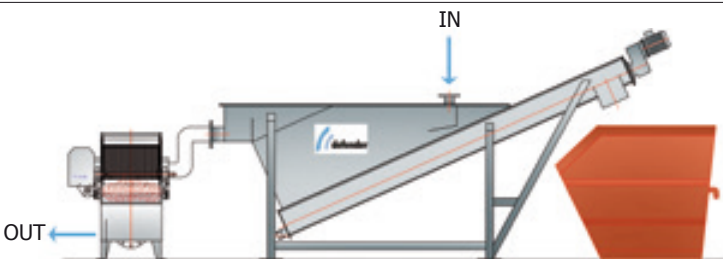


Mounting together with W-Tank settlement basin

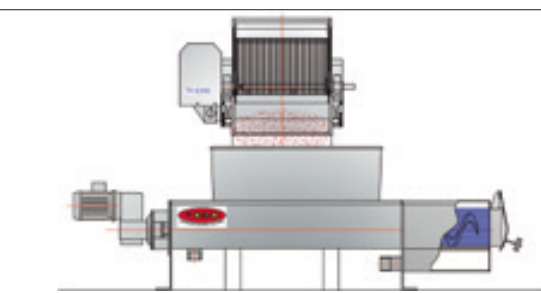


- With large amount of solids present in the discharge, e.g. washing plastics, abattoirs, etc.
- Implementation of two Defender® Rotary Screens.

\* e.g. Upper Size 2.00 mm, Lower Size 0.25 mm



- In the event of a high sand content in the discharge, e.g. cleaning of fruit and vegetables, tuber plants, etc.
- Installation of a preceding Defender® Sand Separator.



- If the solids are bulky, install a Defender® Compactor Screw.
- To reduce running cost or excess moisture.

## Compact and Pre-Assembled Plants:

- On request, compact plants are containerised. Ask for information.
- Plants are also available pre-assembled on a structure.



## Test Pilot and Test Factory:

- Our laboratory test the water to determinate mesh size.
- The equipments are pre-assembled and tested in our factory.



## Transport and Packaging:

- On request:
  - Transportation of equipment in treated wooden crates.
  - Palletising and plastification of equipment.
  - Containerisation.





## Worldwide Presence



Argentina  
Belgium  
Brazil  
Bulgaria  
Canada  
Chile  
Croatia  
Egypt  
Estonia  
France  
Germany  
Greece  
Holland  
Hungary  
India  
Jordan  
Latvia  
Mexico  
Morocco  
Pakistan  
Poland  
Portugal  
Romania  
Russia  
Saudi Arabia  
Spain  
Tunisia  
UAE  
Ukraine  
United Kingdom  
Venezuela



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DEFENDER® ROTARY SCREEN  
DEFENDER® ROTARY SCREEN HPS