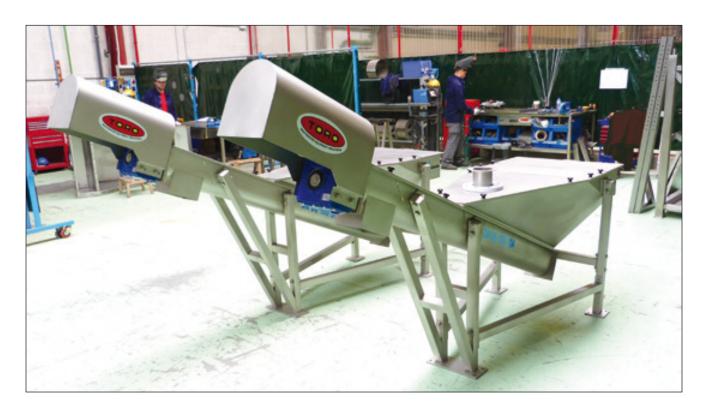
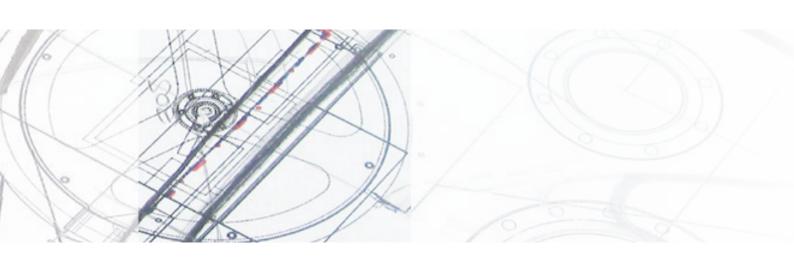
PRETREATMENT EQUIPMENT















Screw Conveyor \cdot TT



Sand Remover \cdot DA



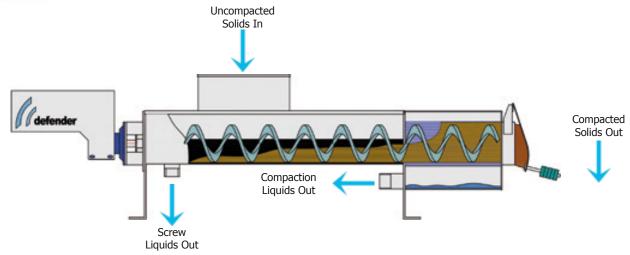
Channel Screen Conveyor · TTC



Compact Pretreatment Plant · PPC

Process Description:





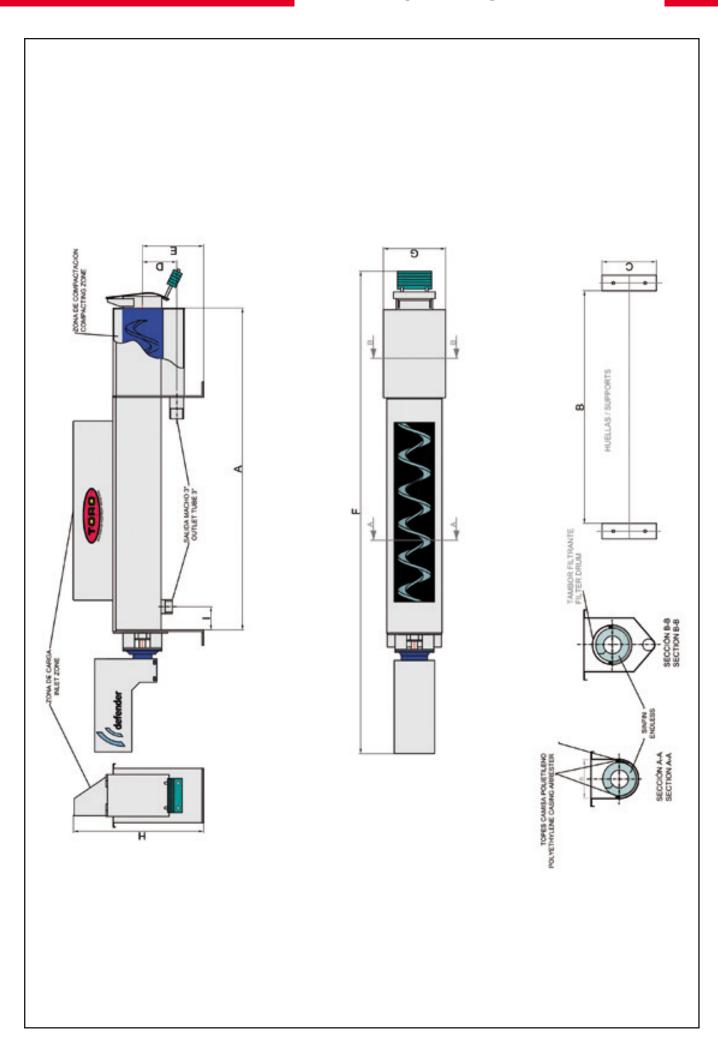


Technical Specifications:

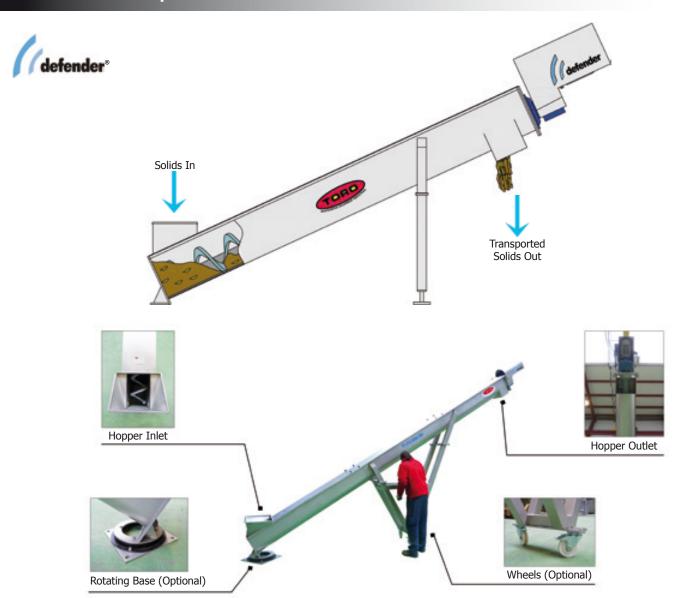
	Screw Compactor - Technical Specifications, mm (in)													
Model	Screw Diameter	Power Kw (HP)	Flow 0° m³/h (US gpm)	Drainage Diameter	А	В	С	D	Е	F	G	H	I	
TC - 160	160 (6 _{2/8})	1.1 (1.5)	1.16 (5.11)	2"	2,075 (81 _{6/8})	1,510 (59 _{4/8})	300 (11 _{6/8})	200 (7 7/8)	377 (14 _{7/8})	3,050 (120 _{1/8})	360 (14 _{1/8})	767 (30 _{2/8})	150 (5 7/8)	
TC - 215	215 (8 4/8)	1.5 (2)	2.81 (12.37)	3"	3,075 (121 _{1/8})	2,510 (98 ^{7/8})	350 (13 _{6/8})	235 (9 _{2/8})	406 (16)	4,110 (161 _{6/8})	410 (16 _{1/8})	844 (33 _{2/8})	150 (5 7/8)	
TC - 280	280 (11)	2.2 (3)	6.21 (27.34)	3"	2,575 (101 _{3/8})	2,010 (79 _{1/8})	435 (17 _{1/8})	275 (10 _{7/8})	444 (17 4/8)	3,650 (143 _{6/8})	495 (19 4/8)	929 (36 5/8)	150 (5 7/8)	
TC - 315	315 (12 _{3/8})	2.2 (3)	8.84 (38.92)	3"	4,075 (160 _{3/8})	3,510 (138 _{2/8})	475 (18 _{6/8})	305 (12)	466 (18 _{3/8})	5,220 (205 _{4/8})	535 (21 _{1/8})	979 (38 _{4/8})	150 (5 7/8)	

NOTES

- The flow figure is for guidance only. Volume and turning speed of this screw will be extrapolated for each application in function of the type of waste to transport, inclination and degree of compaction.
- $\bullet\,$ The length of the unit can be adapted to meet requirements.
- The dimensions and technical specifications can vary slightly due to the ongoing development of the products by the engineering department of Toro Equipment S.L.
- When preparing your order ask for a specifications diagram.
- More specific figures can be found on our webpage, www.toroequipment.com.



Process Description:

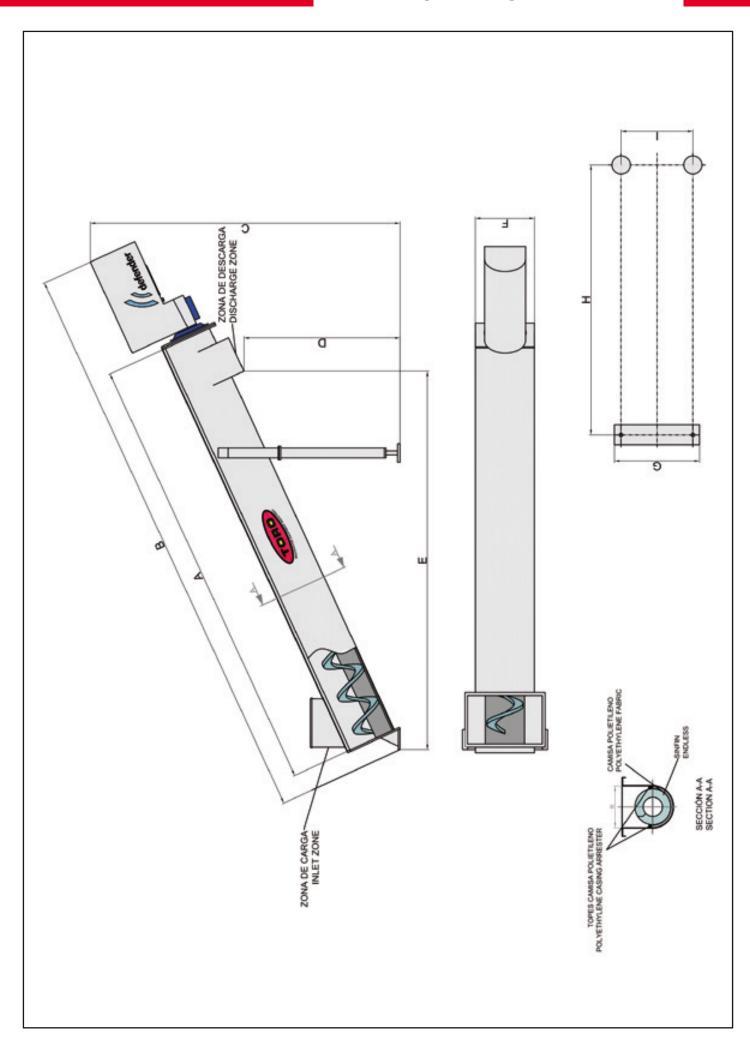


Technical Specifications:

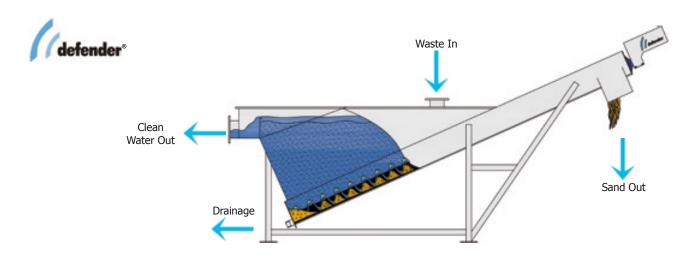
	Screw Conveyor - Technical Specifications, mm (in)													
Model	Screw Diameter	Power Kw (HP)	Flow 0° m³/h (US gpm)	Flow 25° m³/h (US gpm)	А	В	С	D	E	F	G	Н	I	
TT - 160	160	1.1	1.16	0.58	2,000	2,775	1,650	575	1,720	310	460	1,230	380	
	(6 _{2/8})	(1.5)	(5.11)	(2.55)	(78 _{6/8})	(109 _{2/8})	(65)	(22 _{5/8})	(67 _{6/8})	(12 _{2/8})	(18 _{1/8})	(48 3/8)	(15)	
TT - 215	215	1.5	2.81	1.4	3,000	3,775	2,070	994	2,629	360	510	2,139	430	
	(8 4/8)	(2)	(12.37)	(6.16)	(118 _{1/8})	(148 _{5/8})	(81 _{4/8})	(39 1/8)	(103 _{4/8})	(14 _{1/8})	(20 _{1/8})	(84 _{2/8})	(16 7/8)	
TT - 280	280	2.2	6.21	3.1	2,500	3,325	1,880	785	2,175	445	595	1,685	515	
	(11)	(3)	(27.34)	(13.65)	(98 _{3/8})	(130 _{7/8})	(74)	(30 _{7/8})	(85 5/8)	(17 _{4/8})	(23 _{3/8})	(66 3/8)	(20 _{2/8})	
TT - 315	315	2.2	8.84	4.42	4,000	3,520	2,505	1,412	3,537	485	635	3,047	555	
	(12 _{3/8})	(3)	(38.92)	(19.46)	(157 _{4/8})	(138 5/8)	(98 _{5/8})	(55 5/8)	(139 _{2/8})	(19 _{1/8})	(25)	(120)	(21 7/8)	

NOTES:

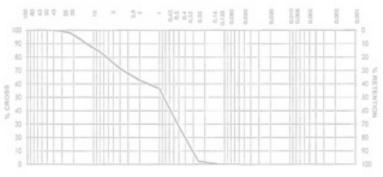
- The flow figure is for guidance only. Volume and turning speed of this screw will be extrapolated for each application in function of the type of waste to transport, inclination and degree of compaction.
- The length of the unit can be adapted to meet requirements.
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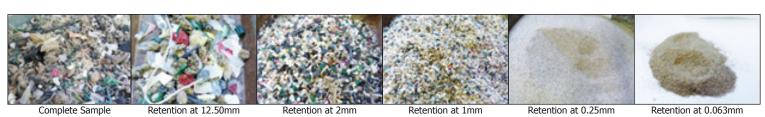


Process Description:









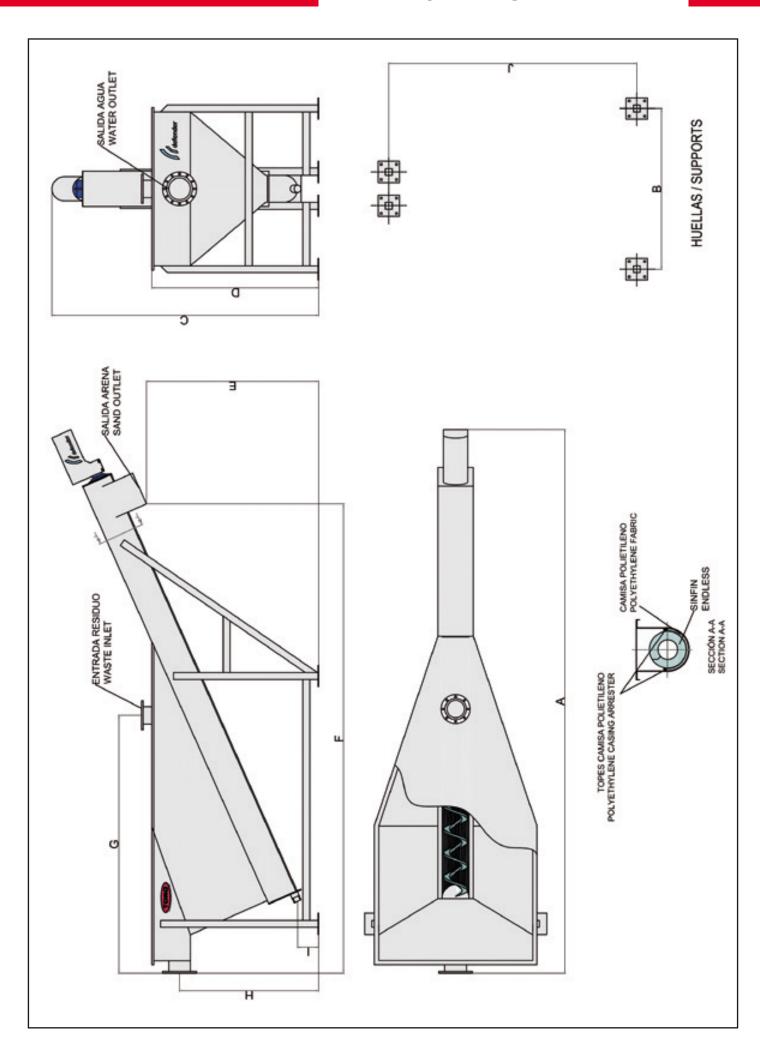
Grain-size test of a sample coming from a Defender® sand rermover unit installed in a plastics factory.

Technical Specifications:

	Sand Remover - Technical Especifications, mm (in)															
Model	Srew Diameter	Power Kw (HP)	Flow m³/h (US gpm)	Inlet	Outlet	Drainage	А	В	С	D	Е	F	G	Н	I	J
DA - 0,6/100	100 (3 7/8)	0.25 (0.33)	15 (66.045)	DN 100 4"	DN 100 4"	2"	2,621 (103 2/8)	750 (29 4/8)	1,384 (54 4/8)	950 (37 3/8)	988 (38 7/8)	2,215 (87 _{2/8})	1,300 (51 1/8)	802 (31 5/8)	250 (9 7/8)	1,165 (45 7/8)
DA - 2/215	215 (8 4/8)	0.75 (1)	50 (220.15)	DN 100 4"	DN 150 6"	3"	4,963 (195 3/8)	1,480 (58 2/8)	2,436 (95 7/8)	1,650 (65)	1,666 (65 5/8)	4,190 (165)	2,550 (100 3/8)	1,327 (52 2/8)	250 (9 7/8)	2,330 (91 6/8)
DA - 4/280	280 (11)	1.1 (1.5)	100 (440.30)	DN 200 8"	DN 250 10"	3"	6,058 (238 4/8)	1,880 (74)	2,920 (115)	1,950 (76 6/8)	2,095 (82 4/8)	5,490 (216 1/8)	3,015 (118 6/8)	1,627 (64)	250 (9 7/8)	2,900 (114 1/8)
DA - 6/280	280 (11)	1.5 (2)	150 (660.45)	DN 200 8"	DN 250 10"	3"	6,742 (265 3/8)	2,280 (89 6/8)	3,140 (123 5/8)	2,250 (88 5/8)	3,175 (125)	5,950 (234 2/8)	3,750 (147 5/8)	1,902 (74 7/8)	250 (9 7/8)	2,660 (104 6/8)

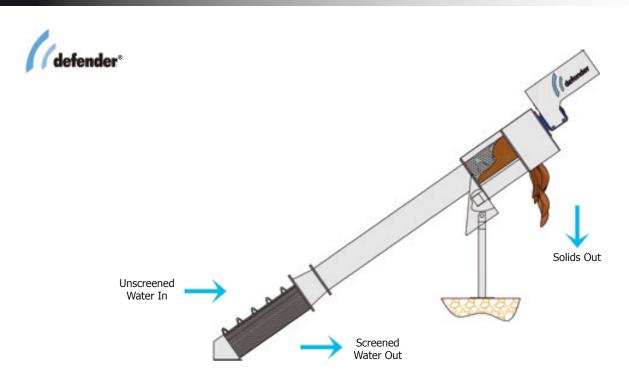
NOTES:

- The specified flow rates are for fine sands of 2.65 kg/dm³. It will be necessary to adjust the de-sander depending on the type and quantity of sands to remove. Consult our engineering department for further information.
- The dimensions and technical specifications can vary slightly due to the ongoing development of the products by the engineering department of Toro Equipment S.L.
- $\bullet\,$ When preparing your order ask for a specifications diagram.
- $\bullet \ \ \text{More specific figures can be found on our webpage, } \textbf{www.toroequipment.com}.$



Channel Screen Conveyor · TTC

Process Description:



Technical Specifications:

	Channel Screen Conveyor - Technical Specifications, mm (in)												
Model	Screw Diameter	Power Kw (HP)	А	В	С	D	Е	F	G	Н	I		
TTC - 200	190	1.1	1,500	3,750	200	680	2,465	1,450	435	2,465	2,060		
	(7 1/2)	(1.5)	(59)	(147 5/8)	(7 7/8)	(26 6/8)	(97)	(57 1/8)	(17 1/8)	(97)	(81 1/8)		
TTC - 300	262 - 190	1.1	1,500	3,995	300	680	2,605	1,590	435	2,667	2,262		
	(10 3/8 - 7 4/8)	(1.5)	(59)	(157 _{2/8})	(11 6/8)	(26 6/8)	(102 4/8)	(62 5/8)	(17 1/8)	(105)	(89)		
TTC - 400	344 - 190	1.1	1,500	4,260	400	680	2,757	1,742	506	2,884	2,479		
	(13 4/8 - 7 4/8)	(1.5)	(59)	(167 6/8)	(15 6/8)	(26 6/8)	(108 4/8)	(68 5/8)	(19 7/8)	(113 4/8)	(97 5/8)		
TTC - 500	442 - 190	1.1	1,500	4,510	500	680	2,900	1,885	570	3,088	2,683		
	(17 3/8 - 7 4/8)	(1.5)	(59)	(177 4/8)	(19 5/8)	(26 6/8)	(114 _{1/8})	(74 2/8)	(22 4/8)	(121 5/8)	(105 5/8)		

	Clean Water Maximum Flow Rates, m³/h (US gpm)												
Mesh Size	Grill M	esh ▼ ▼ , m	nm (in)	Perforated Mesh Ø, mm (in)									
Model	1.00	2.00	3.00	2.00	3.00	4.00	5.00	6.00					
	(0.04)	(0.08)	(0.12)	(0.08)	(0.12)	(0.16)	(0.20)	(0.24)					
TTC - 200	82	127	156	55	65	74	84	93					
	(361)	(559)	(687)	(242)	(286)	(326)	(370)	(409)					
TTC - 300	159	246	302	108	126	144	162	180					
	(700)	(1,083)	(1,330)	(476)	(555)	(634)	(713)	(793)					
TTC - 400	249	386	475	155	198	245	281	324					
	(1,096)	(1,700)	(2,091)	(682)	(872)	(1,079)	(1,237)	(1,427)					
TTC - 500	354	548	674	216	281	353	425	497					
	(1,559)	(2,413)	(2,968)	(951)	(1,237)	(1,554)	(1,871)	(2,188)					

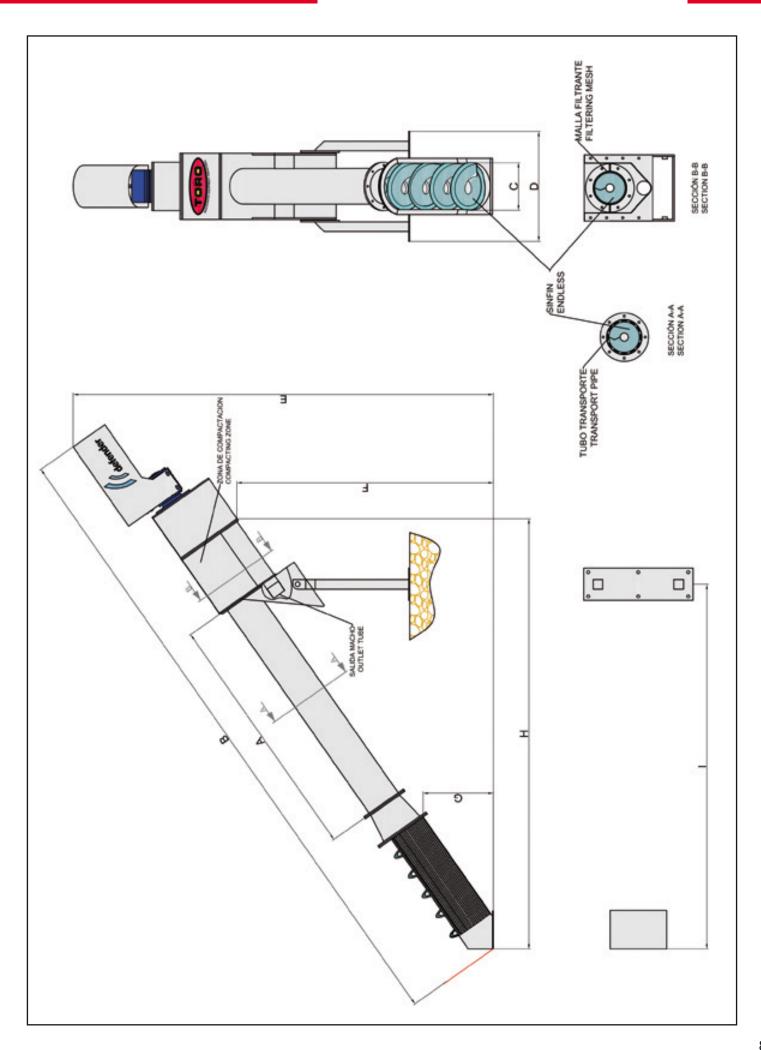




NOTES:

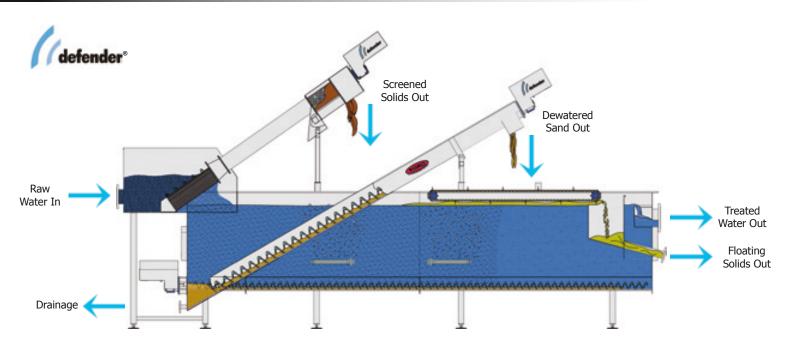
- A reduction factor has to be applied to the specified clean water flow rates, depending on the type and quantity of solids to be removed. Enquiries to our engineering department.
- The dimensions and technical specifications can vary slightly due to the ongoing development of the products by the engineering department of Toro Equipment S.L.
- When preparing your order ask for a specifications diagram.
- $\bullet \ \ \text{More specific figures can be found on our webpage, } \textbf{www.toroequipment.com}.$

Conformity Drawing · TTC Defender®:



Compact Pretreatment Plant · PPC

Process Description:



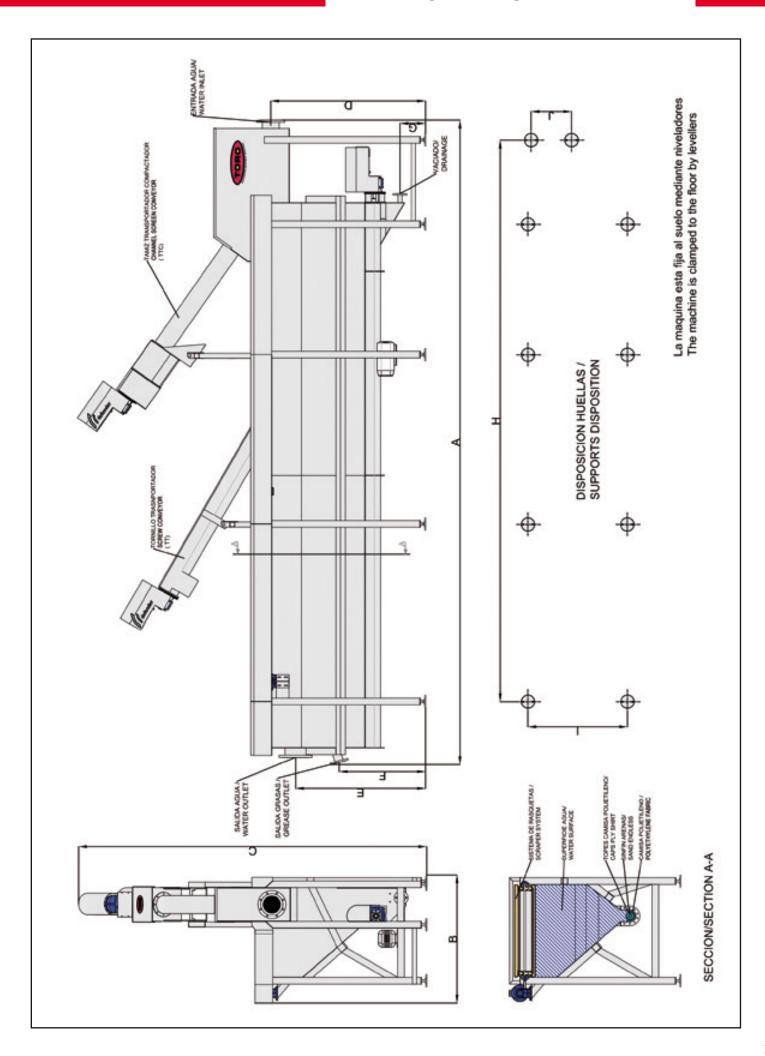


Technical Specifications:

	Compact Pretreatment Plant - Technical Specifications, mm (in)															
Model	Power Kw (HP)	Flow Rate m³/h (US gpm)	Inlet	Outlet	Grease Outlet	Drainage	А	В	С	D	Е	F	G	Н	I	J
PPC-10	3.07	36	DN 150	DN 150	DN 100	DN 50	4,220	1,550	3,950	1,820	1,550	820	310	3,215	1,205	390
	(4.17)	(158.51)	ANSI 6"	ANSI 6"	ANSI 4"	ANSI 2"	(166 1/8)	(61)	(155 4/8)	(71 5/8)	(61)	(32 2/8)	(12 2/8)	(126 5/8)	(47 4/8)	(15 3/8)
PPC-30	4.02	108	DN 200	DN 250	DN 100	DN 50	7,807	1,550	4,214	1,875	1,575	1,045	310	6,802	1,205	490
	(5.46)	(475.52)	ANSI 8"	ANSI 10"	ANSI 4"	ANSI 2"	(307 3/8)	(61)	(165 7/8)	(73 7/8)	(62)	(41 1/8)	(12 2/8)	(267 6/8)	(47 4/8)	(19 2/8)
PPC-60	4.57	216	DN 250	DN 300	DN 150	DN 50	8,807	1,790	4,414	2,070	1,740	1,490	350	7,802	1,497	640
	(6.21)	(951.05)	ANSI 10"	ANSI 12"	ANSI 6"	ANSI 2"	(346 6/8)	(70 4/8)	(173 6/8)	(81 4/8)	(68 4/8)	(58 5/8)	(13 6/8)	(307 1/8)	(58 7/8)	(25 2/8)
PPC-100	5.40	360	DN 350	DN 400	DN 200	DN 100	12,200	2,110	4,720	2,315	1,990	1,490	375	11,195	1,810	740
	(7.34)	(1,585.08)	ANSI 14"	ANSI 16"	ANSI 8"	ANSI 4"	(480 3/8)	(83 1/8)	(185 7/8)	(91 1/8)	(78 3/8)	(58 5/8)	(14 6/8)	(440 6/8)	(71 2/8)	(29 1/8)

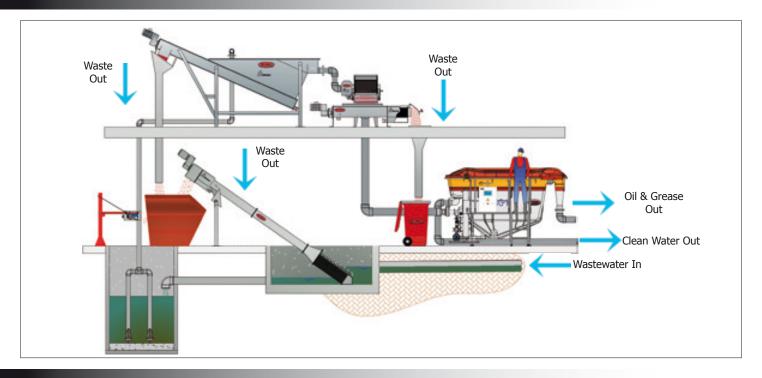
NOTES

- A reduction factor has to be applied to the specified clean water flow rates, depending on the type and quantity of solids to be removed. Enquiries to our engineering department.
- The dimensions and technical specifications can vary slightly due to the ongoing development of the products by the engineering department of Toro Equipment S.L.
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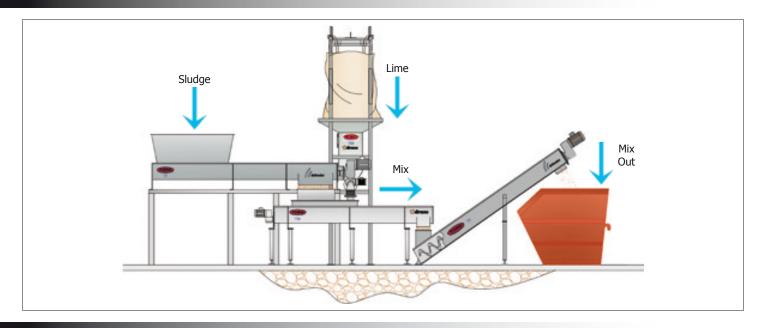


Implementations

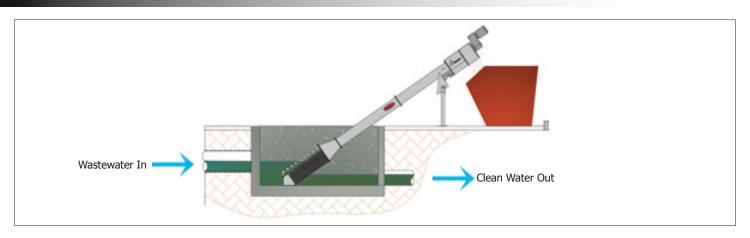
Standard Pretreatment: TTC, DA, TR, TC and FSG



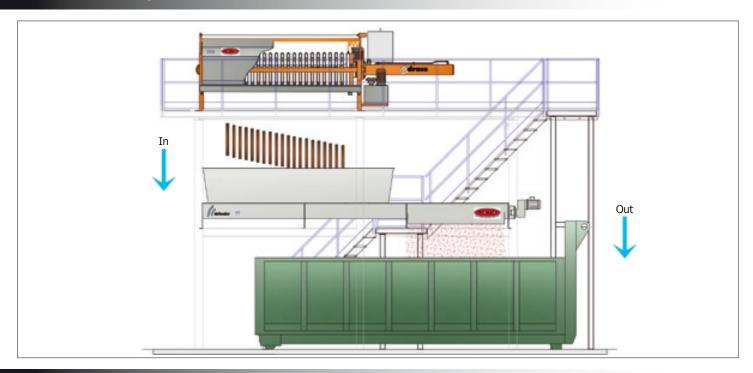
Group TT, TBB, TTM and TT:



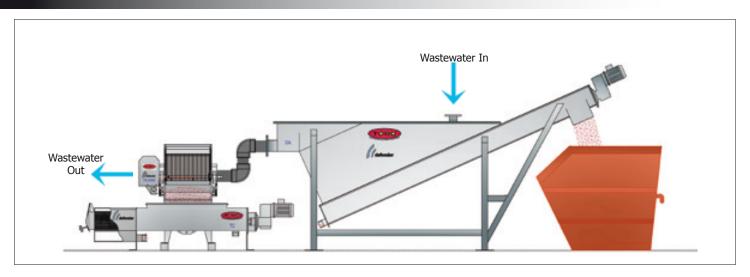
Channel Screen Conveyor:



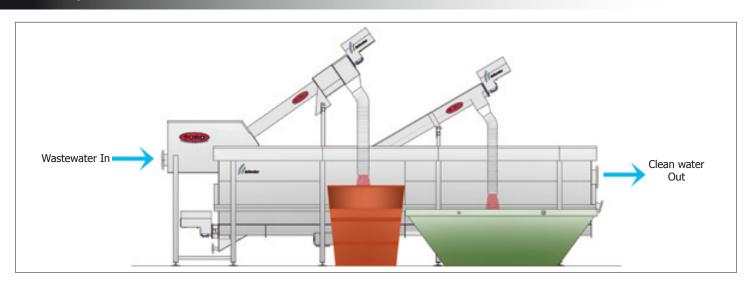
Screw Conveyor:



Group DA, TR and TC:



Compact Pretreatment Plant:



Optionals

Equipment: Standard

& Optional



BODY:	TC	TT	DA	TTC	PPC
Material AISI-304					
Material AISI-316					
Connection flanges ISO/ANSI					
Srew couplings	■ /□	■ /□	■/□	■ /□	
Protective cover		<u> </u>		<u> </u>	<i>-</i>
Motor housing					
Lifting eyebolts					
Anchoring legs					
Blast finish 125-250 µm Microspheres B60	/		/		/
CLEANING SYSTEM:	TC	П	DA	TTC	PPC
Self-cleaning brush	-	-	-		
SCREENING MESH:	TC	П	DA	TTC	PPC
Material AISI-304		-			
Material AISI-316		-			
Grill mesh	■ /□	-	■ /□	■ /□	
Perforated mesh	■/□	-	☑/□	■ /□	■ /□
DOCUMENTATION:	TC	π	DA	TTC	PPC
User manuals in specific language					
ISO standard documentation					1
CERTIFICATES:	TC	П	DA	TTC	PPC
EC Certificate					
Certificate of origin					
Factory test Certificate					
Quality certificate					1
Certificate of materials					
Welding certificate					
ELECTRIC PANEL:	TC	П	DA	TTC	PPC
Incorporation of electrical panel					
Start/Stop					
Automatic cleaning program	-	-	-	-	-
Emergency stop					
DRIVE SYSTEM:	TC	π	DA	TTC	PPC
Multi-voltage motor					
ATEX Motor					
Motor fulfilling NEMA standards, CSA, etc					
OTHERS:	TC	TT	DA	TTC	PPC
Packed in fumigated crate					
Retractable packaging					_
Containerisation					
Lifting structure					
Rotating base	-		-	-	-
Wheels in legs	-		-	-	-
Solids collection hopper AISI-304					
Solids collection hopper AISI-316					
Solids collection hopper AISI-PRFV					
Mixer Transporter Screw TTM Draco®					
Rotary Screen TR 40&63 Defender®					
Rotary Screen TR HPS M&L Defender®					
Static Screen TE Defender®					

NOTAS:

- \bullet The optional equipment has a surcharge. Request information and quotation.
- \bullet The ongoing development of the units can alter some of their specifications.
- \bullet You will find the latest information in ${\bf www.toroequipment.com}.$

Advantages and Applications:

- Extensive range of models designed and tested by Toro Equipment, manufactured in stainless steel type 304 and 316.
- Guaranteed against material or production defects under normal conditions of use and maintenance.
- The Defender® equipments can be combined with each other to achieve optimal treatment results.
- Quick and easy installation. Can be mounted in limited spaces.
- Maintenance is fast and easy.
- The units are always wrapped in retractable material and optionally in treated wooden crates.
- Toro Equipment offers commissioning services and after-sales service. Ask for details.
- Applications: paper mills, tanneries and textile works, food industry, municipal works, cellars, fish and meat handling, products with high oil content, canning, laundries, dairy industry, biodiesel, etc.





Quality and Industrial Processes:

- To achieve the high quality of our products and services, Toro Equipment has developed and implemented a Quality Management System according to the standard UNE-EN-ISO 9001, adapted to the needs of the company and is continuously improving the procedure.
- The system is based on continuous monitoring of all activities undertaken in the company:
 - Design.
 - Manufacture.
 - After sales service.
- Standard finish with microsphere shot-blasting.





Compact and Pre-mounted plants:

• Defender® pretreatment units can be preinstalled in marine containers or on platforms in the place of origin, ready for assembly and use.





Worldwide References



Factory Villavaquerín - Valladolid



Factory La Cistérniga - Valladolid



