



ADVANCED FLOW
SYSTEMS™



HT PRO™ SYSTEM

Push-Fit polypropylene
Waste Water System

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HULIOT Pipes & Fittings Private Limited Company Profile

Huliot is a leading Israeli manufacturer of advanced pipe systems and innovative plastic products. With its over 70 years' experience, Huliot specializes in flow products: water supply, drainage, sewage and grey water recycling. Huliot's comprehensive product line of pipes and fittings for the building and infrastructure sectors are available in all standard diameters and sizes and in a range of plastic materials, including polypropylene (PP), polyvinyl chloride (PVC) and polyethylene (HDPE). All products are manufactured and produced by the latest extrusion and injection-moulding technologies. Huliot is renowned in the market for its uncompromising product quality. All its products are manufactured in accordance with European and Israeli standards. Huliot's manufacturing procedures comply with the most rigorous international standards for quality assurance, environmental protection and employee health and safety. HULIOT is certified for and compliant with ISO 9001:2015 ISO 14001:2004, OHSAS 45001.

Huliot pipes and fittings Pvt. Ltd. is fully owned subsidiary of Israeli parent company Huliot ACS. Huliot brings the expertise, R & D to India to contribute to Indian plumbing industry.

Huliot India is manufacturing & selling green recyclable pipes made of Polypropylene to replace PVC.

Unlike PVC which contains lead, Chlorine, Polypropylene is a pure and non hazardous to health It can be used in Residential, Commercial, Hotels, Hospitals, Schools, Industries like pharma and others.



Description of the **HT PRO** System

Piping system for waste and drainage inside the building made of halogen and cadmium free co-polymer polypropylene.

Three layer pipes with thickness in S16 series. Joints are made with push-fit sockets and elastomer seals.

Used in the construction of waste systems inside the building structure (application area B), anchored externally to the walls or embedded directly in the concrete. Can be used also for the creation of ventilation systems of waste water systems and for rain water drainage (only gravity systems).

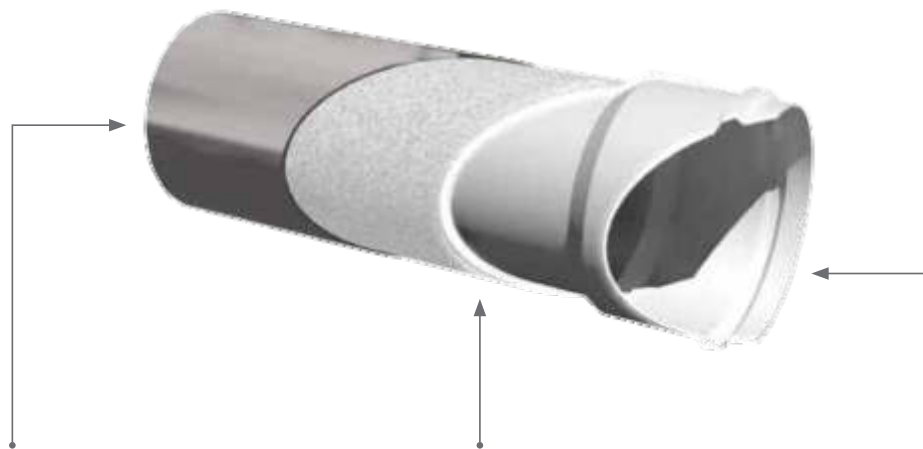
B2 fire resistance class in compliance with DIN 4102.

The system is manufactured in compliance with EN 1451 and certified by SKZ.



Main Features

- Three layer pipes
- Increased pipe thickness, S16 series, for excellent performances
- Easy and fast installation without tools
- Low thermal expansion
- High chemical resistance to metropolitan and industrial waste water
- 100% Recyclability
- High impact resistance at low temperature (-10°C)
- White interior for easy visual inspection
- Extremely smooth flow
- 10-year guarantee



External Layer

Made of grey PP, provides excellent impact resistance even at low temperature and high mechanical performances.

Middle Layer

Made of PP provides excellent stiffness.

Internal Layer

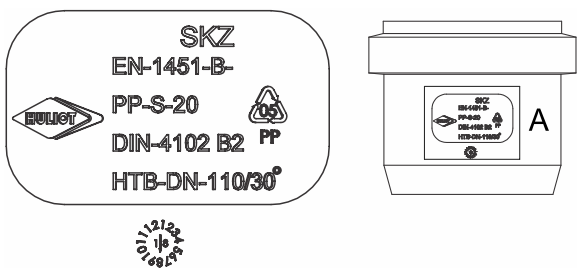
Made of white PP co-polymer, gives high flow performance thanks to smooth surface, excellent resistance to chemical agents and high-definition contrast for visual inspection.

Marking of pipes



Recycling symbol	Recyclable product
Huliot logo	Manufacturer
DN 110 x 3,4	Diameter and thickness
PPML	Material
S-16	Pipe series
HTPRO	Commercial product name
EN 1451	Construction standard
B	Application area
SKZ A778	Certificate n°
DIN 4102 B2	Fire class
DD/MM/YY	Production date
XX	Production site

Marking of fittings



Recycling symbol	Recyclable product
Huliot logo	Manufacturer
EN 1451 - B - PP	Construction standard - application area - material
S-20	Pipe series
DIN 4102 B2	Fire class
HTB DN110 30°	Type of product, diameter, angle
Date	Production date

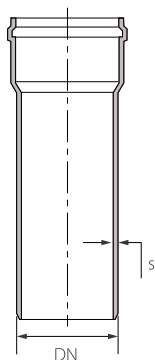
Certificates



Product Certificates

- Pipes: SKZ A778
- Fittings: SKZ 5953

Pipes dimensions as per standard EN1451-1



DN	s (mm)	App. Area	Series
32	1.8	B	S16
40	1.8	B	S16
50	1.8	B	S16
75	2.3	B	S16
90	2.8	B	S16
110	3.4	B	S16
125	3.9	B	S16
160	4.9	B	S16

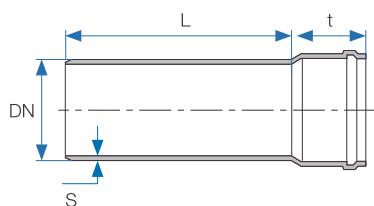
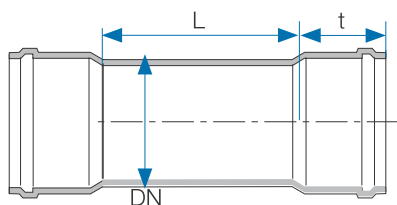
Datasheet

Property	Value	Test Method
Application Field	High and low temperature waste and drainage systems inside buildings (application area B), anchored to the walls or laid directly in concrete; ventilation of waste water systems, gravity rainwater drainage systems.	
Pipe structure and material	Three layer pipe in S16 thickness series; combination of co-polymer, homo-polymer and compound of polypropylene.	
Fitting Material	Co-polymer polypropylene	
Connection	Push-fit sockets with rubber seal	
Seal	SBR rubber lip ring	
Color	Fittings: Grey RAL 7037 Pipes: Grey RAL 7037 for the external layer, dark grey for the middle layer, white for the internal layer	
Diameters	40-200 mm	
Packaging	Pipes in wooden frames, in bundles and boxes depending on diameter and length. Fittings in cardboard boxes	
Minimum working temperature	-20°C	
Max temperature of waste water	+95°C (discontinuous) +80°C (continuous)	
Chemical resistance	Discharge media between pH2 and pH 12	
Density	0.80-0.95 g/cm ³	ISO 527-1,2
Yield stress	33 Mpa	ISO 527-1,2
Elongation at yield	12%	ISO 527-1,2
Elasticity modulus	1.500 Mpa	ISO 527-1,2
Linear thermal expansion	0,12 mm/mC° ⁻¹	
Halogen & cadmium content	Free of Halogen or Cadmium	
Reaction to fire	B2	DIN 4102
UV resistance	Suitable for external installation when protected to direct sun exposure (for instance by mean of special UV protective coating); can be stocked outside up to 18 months	
Construction Standard	EN 1451-1	
Conformity certificate	SKZ 5953, SKZ A778	

Polypropylene - P.P.

Measuring method	Measuring method		Symbol	Value
Density (g/cm ³)	DIN 53479	ISO 1183	ρ	0.90
Notch impact resistance (at 20°C / kJ/m ²)	DIN 53453	ISO 179	α_k	6.86
Limited bending stress (N/mm ²)	DIN 53452		σ_{bG}	43.14
Yield stress (N/mm ²)	DIN 43452	ISO 527-2/50	σ_s	33.0
Tear resistance (N/mm ²)			σ_R	39.22
Elongation at tear (%)			ϵ_R	800
Modulus of elasticity (N/mm ²)	DIN 53457		E	1275
Vicat softening point (°C)	DIN 53460	ISO 306-1	VSP/A	155-162
Thermal conductivity (W/Km)	DIN 52162		λ	0.22
Linear coefficient of thermal expansion (°C ⁻¹)	DIN VDE 0304-1-4		α	1.2X100 ³

HT PRO - Pipe (Push-Fit) + Seal



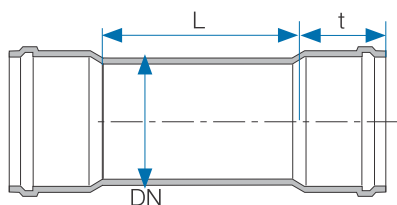
Pipe with One Socket	Pipe with Two Socket	DN Ø mm	S	t	L	Material	Color	Package Quantity
54040015	5404040015	40	1.8	49	150	P.P	Grey	75
54040025	5404040025	40	1.8	49	250	P.P	Grey	60
54040050	5404040050	40	1.8	49	500	P.P	Grey	30
54040075	5404040075	40	1.8	49	750	P.P	Grey	10
54040100	5404040100	40	1.8	49	1,000	P.P	Grey	10
54040150	5404040150	40	1.8	49	1,500	P.P	Grey	10
54040200	5404040200	40	1.8	49	2,000	P.P	Grey	10
54040300	5404040300	40	1.8	49	3,000	P.P	Grey	10

54050015	5405050015	50	1.8	51	150	P.P	Grey	60
54050025	5405050025	50	1.8	51	250	P.P	Grey	40
54050050	5405050050	50	1.8	51	500	P.P	Grey	20
54050075	5405050075	50	1.8	51	750	P.P	Grey	10
54050100	5405050100	50	1.8	51	1,000	P.P	Grey	10
54050150	5405050150	50	1.8	51	1,500	P.P	Grey	10
54050200	5405050200	50	1.8	51	2,000	P.P	Grey	10
54050300	5405050300	50	1.8	51	3,000	P.P	Grey	10

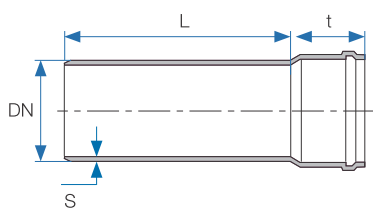
54075015	5407575015	75	2.3	58	150	P.P	Grey	10	600
54075025	5407575025	75	2.3	58	250	P.P	Grey	8	600
54075050	5407575050	75	2.3	58	500	P.P	Grey	8	288
54075075	5407575075	75	2.3	58	750	P.P	Grey	4	200
54075100	5407575100	75	2.3	58	1,000	P.P	Grey	4	168
54075150	5407575150	75	2.3	58	1,500	P.P	Grey	4	100
54075200	5407575200	75	2.3	58	2,000	P.P	Grey	4	100
54075300	5407575300	75	2.3	58	3,000	P.P	Grey	4	130

* Table continued next page

HT PRO - Pipe (Push-Fit) + Seal



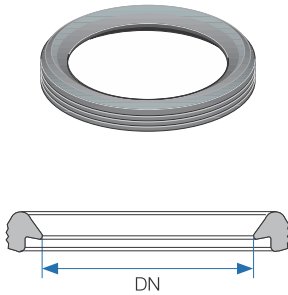
Pipe with One Socket	Pipe with Two Socket	DN Ø mm	S	t	L	Material	Color	Package Quantity
540110015	5401111015	110	3.4	70	150	P.P	Grey	10
540110025	5401111025	110	3.4	70	250	P.P	Grey	8
540110050	5401111050	110	3.4	70	500	P.P	Grey	10
540110075	5401111075	110	3.4	70	750	P.P	Grey	4
540110100	5401111100	110	3.4	70	1,000	P.P	Grey	10
540110150	5401111150	110	3.4	70	1,500	P.P	Grey	4
540110200	5401111200	110	3.4	70	2,000	P.P	Grey	4
540110250	5401111250	110	3.4	70	2,500	P.P	Grey	4
540110275	5401111275	110	3.4	70	2,750	P.P	Grey	4
540110300	5401111300	110	3.4	70	3,000	P.P	Grey	1



540125025	5401212025	125	3.9	78	250	P.P	Grey	8
540125050	5401212050	125	3.9	78	500	P.P	Grey	4
540125100	5401212100	125	3.9	78	1,000	P.P	Grey	4
540125275	5401212175	125	3.9	78	2,750	P.P	Grey	4
540125300	5401212300	125	3.9	78	3,000	P.P	Grey	1

540160025	5401616025	160	4.9	90	250	P.P	Grey	-
540160050	5401616050	160	4.9	90	500	P.P	Grey	-
540160100	5401616100	160	4.9	90	1,000	P.P	Grey	-
540160150	5401616150	160	4.9	90	1,500	P.P	Grey	-
540160200	5401616200	160	4.9	90	2,000	P.P	Grey	-
540160300	5401616300	160	4.9	90	3,000	P.P	Grey	-
540200300	-	200	6.2	108	3,000	P.P	Grey	-

Pipes - Lip Ring Seal



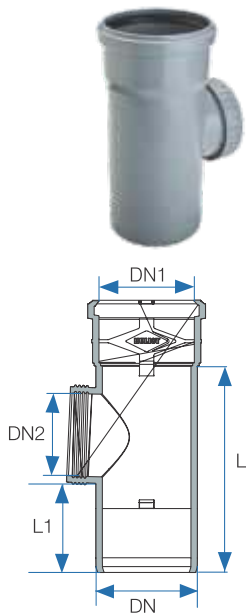
Art. No.	DN Ø mm	Material	Color
47603241	32	SBR	Black
47610041	40	SBR	Black
47620041	50	SBR	Black
47630041	75	SBR	Black
47640041	110	SBR	Black
47650041	125	SBR	Black
47660041	160	SBR	Black
47670041	200	SBR	Black

Lubricant

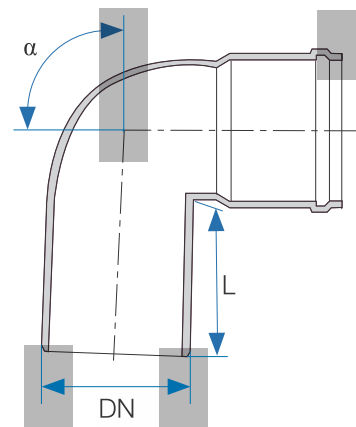
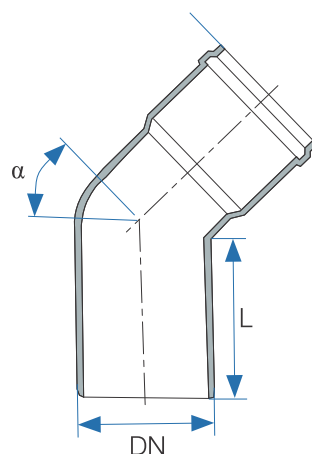


Code	ml	Box Qty	Package Qty
47700012	250	50	-
47700013	1000	12	1728

HT PRO - Inspection Pipe + Seal

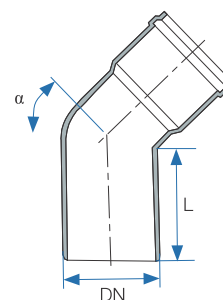


Code	Item Description	Ø / DN	Ø / DN2	L	L1	Material	Color	Box Qty	Pkg. Qty
49130050	Inspection Pipe	75.0	64.0	164	81	P.P	Grey	20	800
49140060	Inspection Pipe	110.0	97.0	223	96	P.P	Grey	15	120
49150060	Inspection Pipe	125.0	97.0	219	90	P.P	Grey	10	120
49160060	Inspection Pipe	160.0	97.0	232	104	P.P	Grey	8	60



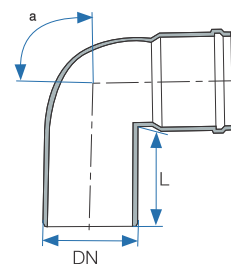
Art. No.	DN Ø mm	L	α	Material	Color	Package Quantity
40040150	110	78.0	15°	P.P	Grey	32
40060150	160	99.0		P.P	Grey	12
40040350	110	85.0	30°	P.P	Grey	32
40060350	160	105.0		P.P	Grey	12
40010460	40	58.5	45°	P.P	Grey	130
40020460	50	64.0		P.P	Grey	80
40030460	75	74.5		P.P	Grey	55
40040460	110	94.0		P.P	Grey	28
40050460	125	104.0		P.P	Grey	20
40060460	160	116.0		P.P	Grey	10
40010860	40	73.5	87°	P.P	Grey	110
40020860	50	79.5		P.P	Grey	70
40030860	75	99.5		P.P	Grey	45
40040860	110	129.0		P.P	Grey	20
40050860	125	142.0		P.P	Grey	15
40060860	160	162.0		P.P	Grey	8

HT PRO - 45° Bend with Inspection + Seal



Art. No.	DN Ø mm	α	With Inspection	L	Material	Color	Package Quantity
40020467	50	45°	Back	64.0	P.P	Grey	60
40040467	110		Back	94.0	P.P	Grey	18
40040468	110		Right	94.0	P.P	Grey	16
40040469	110		Left	94.0	P.P	Grey	16
40060457	160		Back	116.0	P.P	Grey	4
40060458	160		Right	116.0	P.P	Grey	4
40060459	160		Left	116.0	P.P	Grey	4

HT PRO - 87.5° Bend with Inspection + Seal



Art. No.	DN Ø mm	α	With Inspection	L	Material	Color	Package Quantity
40020867	50	87.5°	Back	80.0	P.P	Grey	60
40030867	75		Back	100.0	P.P	Grey	35
40040867	110		Back	129.0	P.P	Grey	18
40040868	110		Right	129.0	P.P	Grey	16
40040869	110		Left	129.0	P.P	Grey	16
40060857	160		Back	162.0	P.P	Grey	4
40060859	160		Left	162.0	P.P	Grey	4

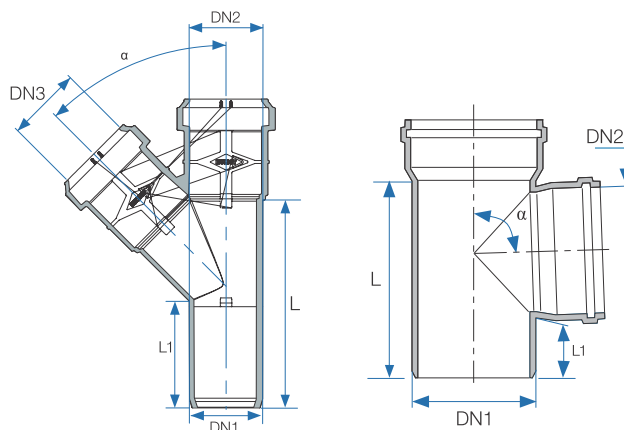
HT PRO - Single Branch + Seal



Branch Y (45°)



Branch T (87°)



Art. No.	Size	DN1 Ø mm	DN2 Ø mm	DN3 Ø mm	α	L	L1	Material	Color	Package Quantity
40611440	40/40/45	40	40	40	45°	107	52	P.P	Grey	90
40621440	50/50/40	50	50	40		125	82	P.P	Grey	20
40622460	50/50/50	50	50	50		125	55	P.P	Grey	60
40633460	75/75/50	75	75	50		165	58	P.P	Grey	32
40642460	110/110/50	110	110	50		225	113	P.P	Grey	22
40643460	110/110/75	110	110	75		224	96	P.P	Grey	12
40644460	110/110/110	110	110	110		224	70	P.P	Grey	10
40654460	125/125/110	125	125	110		231	76	P.P	Grey	10
40655460	125/125/125	125	125	125		255	78	P.P	Grey	10
40664450	160/160/110	160	160	110		280	127	P.P	Grey	5
40666450	160/160/160	160	160	160		315	91	P.P	Grey	4
40611860	40/40/87	40	40	-	87°	98	55	P.P	Grey	100
40621860	50/40/87	50	40	-		109	64	P.P	Grey	20
40622860	50/50/87	50	50	-		109	59	P.P	Grey	40
40632860	75/50/87	75	50	-		165	91	P.P	Grey	36
40633860	75/75/87	75	75	-		164	76	P.P	Grey	34
40633860	75/75/87 (Short)	75	75	-		132	58	P.P	Grey	34
40642860	110/50/87	110	50	-		130	79	P.P	Grey	25
40642860	110/50/87 (Short)	110	50	-		118	66	P.P	Grey	25
40643860	110/75/87	110	75	-		203	95	P.P	Grey	10
40644860	110/110/87	110	110	-		171	64	P.P	Grey	12
40664860	160/110/87	160	110	-		240	110	P.P	Grey	6
40666860	160/160/87	160	160	-		268	107	P.P	Grey	5

HT PRO - Single Branch with Inspection + Seal



**Branch T
With Back
Inspection**



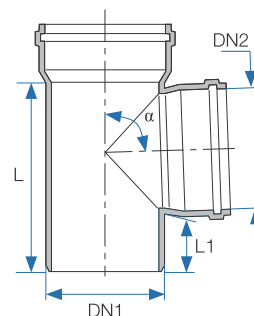
**Branch T
With Left
Inspection**



**Branch T
With Right
Inspection**



**Branch Y
With Back
Inspection**



Art. No.	Size	DN1 Ø mm	DN2 Ø mm	α	With Inspection	L	L1	Material	Color	Package Quantity
40664457	160/110/45	160	110	45°	Back	320	87	P.P	Grey	5
40622867	50/50/87	50	50	87°	Back	121	48	P.P	Grey	35
40644867	110/110/87	110	110		Back	181	67	P.P	Grey	10
40644868	110/110/87	110	110		Right	176	68	P.P	Grey	8
40644869	110/110/87	110	110		Left	187	68	P.P	Grey	1
40664857	160/110/87	160	110		Back	258	87	P.P	Grey	1
40664858	160/110/87	160	110		Right	258	87	P.P	Grey	1
40664859	160/110/87	160	110		Back	258	87	P.P	Grey	1
40666857	160/160/87	160	160		Back	258	90	P.P	Grey	1

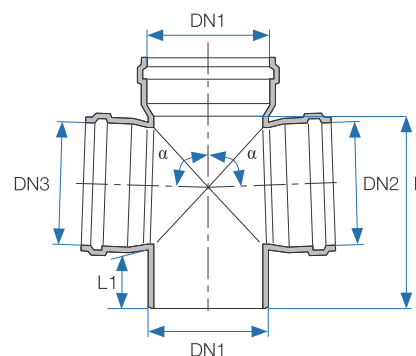
HT PRO - Double Branch with Inspection + Seal



**Double Branch 87°
With Inspection**



**Double Branch 45°
With Inspection**



Art. No.	Size	DN1 Ø mm	DN2 Ø mm	DN3 Ø mm	α	L	L1	Material	Color	Package Quantity
41044457	110/110/110/45	110	110	110	45°	228	68	P.P	Grey	6
41044857	110/110/110/87	110	110	110	87°	194	68	P.P	Grey	8
41064857	160/110/110/87	160	110	110		257	87	P.P	Grey	6
41066857	160/160/160/87	160	160	160		270	87	P.P	Grey	1

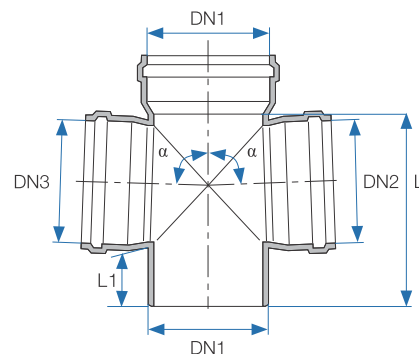
HT PRO - Double Branch with Inspection + Seal



Double Branch 87°

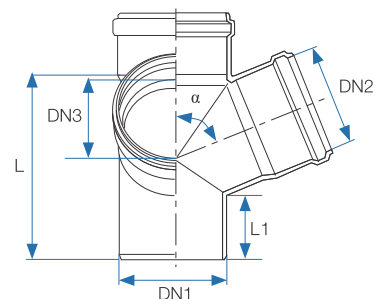


Double Branch 45°



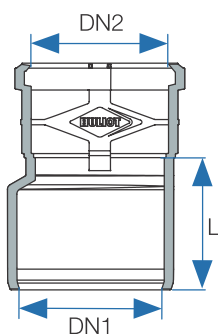
Art. No.	Size	DN1 Ø mm	DN2 Ø mm	DN3 Ø mm	α	L	L1	Material	Color	Package Quantity
41022460	50/50/50/45	50	50	50	45°	137	48	P.P	Grey	-
41032450	75/50/50/45	75	50	50		129	52	P.P	Grey	1
41033450	75/75/75/45	75	75	75		152	52	P.P	Grey	1
41042450	110/50/50/45	110	50	50		182	68	P.P	Grey	20
41044450	110/110/110/45	110	110	110		228	68	P.P	Grey	6
41062450	160/50/50/45	160	50	50		250	86	P.P	Grey	1
41022860	50/50/50/87	50	50	50	87°	115	47	P.P	Grey	26
41032860	75/50/50/87	75	50	50		125	51	P.P	Grey	1
41033860	75/75/75/87	75	75	75		149	51	P.P	Grey	1
41042860	110/50/50/87	110	50	50		188	66	P.P	Grey	10
41043850	110/75/75/87	110	75	75		288	66	P.P	Grey	1
41044860	110/110/110/87	110	110	110		194	66	P.P	Grey	8
41052860	125/50/50/87	125	50	50		210	72	P.P	Grey	1
41054850	125/110/110/87	125	110	110		192	72	P.P	Grey	1
41062850	160/50/50/87	160	50	50		257	82	P.P	Grey	6
41064850	160/110/110/87	160	110	110		257	82	P.P	Grey	6
41066850	160/160/160/87	160	160	160		270	82	P.P	Grey	1

HT PRO - Double Corner Branch + Seal



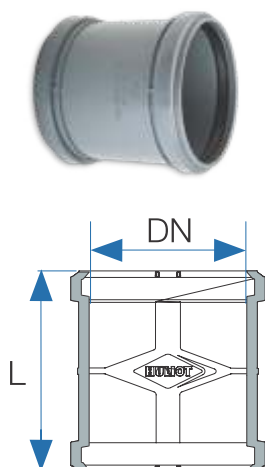
Art. No.	Size	DN1 Ø mm	DN2 Ø mm	DN3 Ø mm	α	L	L1	Material	Color	Package Quantity
41242450	110/50/50/45	110	50	50	45°	128	56	P.P	Grey	1
41243450	110/75/75/45	110	75	75		178	56	P.P	Grey	1
41264450	160/110/110/45	160	110	110		370	75	P.P	Grey	1
41242850	110/50/50/87	110	50	50	87°	128	56	P.P	Grey	20
41244850	110/110/110/87	110	110	110		197	56	P.P	Grey	6
41252860	125/50/50/87	125	50	50		209	70	P.P	Grey	-
41254860	125/110/110/87	125	110	110		209	70	P.P	Grey	-
41262850	160/50/50/87	160	50	50		268	78	P.P	Grey	-
41264850	160/110/110/87	160	110	110		270	78	P.P	Grey	-
41266850	160/160/160/87	160	160	160		372	78	P.P	Grey	-

HT PRO - Reducer + Seal



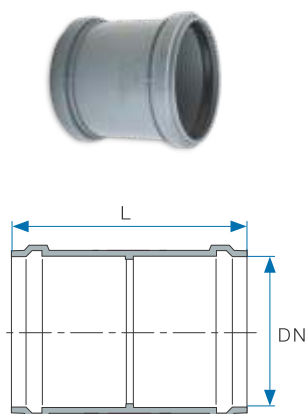
Art. No.	Size	DN1 Ø mm	DN2 Ø mm	L	Material	Color	Package Quantity
42121060	50/40	50	40	60	P.P	Grey	120
42132050	75/50	75	50	72	P.P	Grey	60
42142050	110/50	110	50	100	P.P	Grey	60
42143050	110/75	110	75	82	P.P	Grey	60
42154060	125/110	125	110	114	P.P	Grey	27
42164050	160/110	160	110	112	P.P	Grey	18

HT PRO - Coupler + Seal



Art. No.	DN Ø mm	L	Material	Color	Package Quantity
41730053	75	108	P.P	Grey	44
41740053	110	132	P.P	Grey	32
41750053	125	144	P.P	Grey	10
41760053	160	166	P.P	Grey	18

HT PRO - Double Socket + Seal



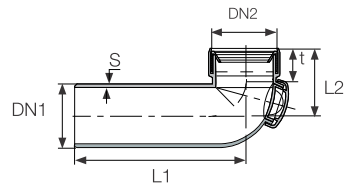
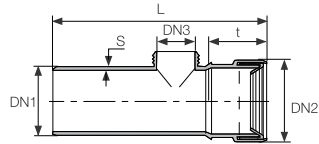
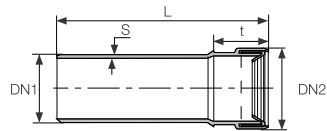
Art. No.	DN Ø mm	L	Material	Color	Package Quantity
41710050	40	85	P.P	Grey	20
41720050	50	98	P.P	Grey	60
41730050	75	108	P.P	Grey	44
41740250	110	132	P.P	Grey	32
41750065	125	144	P.P	Grey	24
41750055	160	166	P.P	Grey	12

HT PRO - Heavy Duty Clamps



Art-Nr.	DN	M	Strip Size	Rubber Sleeve	Max Load (Kg)
48100040	40	M8/M10	1.6x19	3 Ply EPDM	300
48100050	50	M8/M10	1.6x19	3 Ply EPDM	300
48100075	75	M8/M10	1.6x19	3 Ply EPDM	500
48100011	110	M8/M10	1.6x19	3 Ply EPDM	500
48100012	125	M8/M10	1.6x19	3 Ply EPDM	500
48100016	160	M8/M10	1.6x19	3 Ply EPDM	500
48100020	200	M8/M10	1.6x19	3 Ply EPDM	500

WC Connector



Straight WC Connector

Item Code	DN
41540020	110

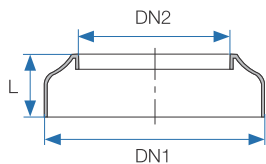
Straight WC Connector With Inspection

Item Code	DN
41540027	110

Bend WC Connector With Inspection

Item Code	DN
41542866	110

Flange for WC Connections

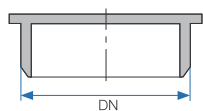


Art. No.	DN1 Ø mm	DN2 Ø mm	L	Material	Color	Package Quantity
41540615	160	110	45	P.P	White	60

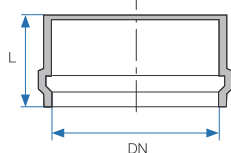
HT PRO - Plug



Internal

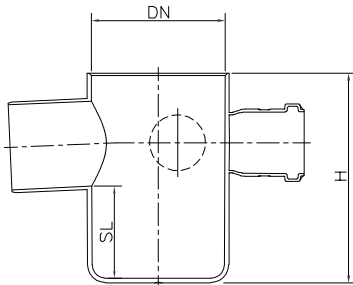


Outer



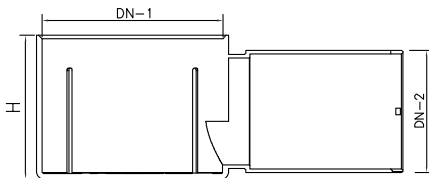
Art No.	Type	DN Ø mm	L	Material	Color	Package Quantity
41610040	internal	40	32	P.P	Grey	300
41620050		50	33	P.P	Grey	200
41630050		75	42	P.P	Grey	140
41640050		110	70	P.P	Grey	100
41650060		125	74	P.P	Grey	24
41660060		160	85	P.P	Grey	40
41630052	Outer	75	54	P.P	Grey	t
41640052		110	68	P.P	Grey	64
41660052		160	86	P.P	Grey	15

Multi Trap with Risers and Gratings



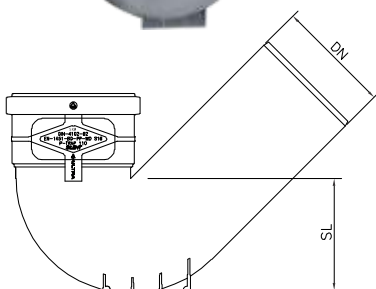
Code	Item Description	DN 1	SL	H
69011750	Multitrap	110	76	173
69201551	Height Riser	110	-	150
69203551	Height Riser	110	-	350

Nahani Trap with Gratings



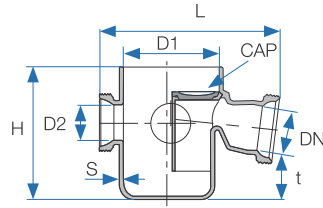
Code	Item Description	DN 1	DN 2	H
69111750	Nahani Trap	110	75	88

P - Trap with Risers



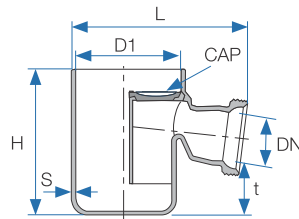
Code	Item Description	DN 1	SL
49540750	P Trap	110	107

Threadlock™ Water Trap Collector with Adjustable Ball Joint



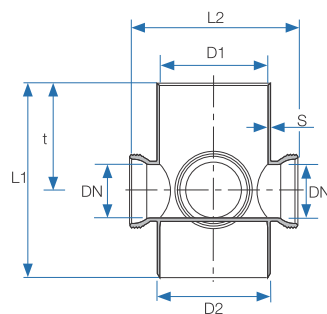
Art. No.	Size	DN Ø mm	DN1 Ø mm	DN2 Ø mm	S	t	L	H	Material	Color	Package Quantity
60114590	תנ"ף	50	98.4	40	2.5	52	161	140	P.P	Grey	22

Threadlock™ Shower Water Trap



Art. No.	Size	DN Ø mm	DN1 Ø mm	S	t	L	H	Material	Color	Package Quantity
60114500	סגור	50	98.4	2.5	52	161	140	P.P	Grey	30

Threadlock™ Floor Drainage Collectors



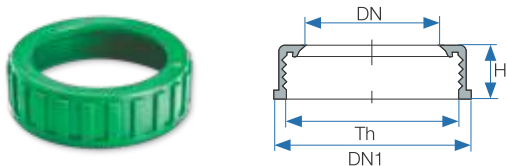
Art. No.	Size	DN Ø mm	DN1 Ø mm	S	t	L	H	Material	Color	Package Quantity
60113565	110	50	98.4	110	2.5	90	200	P.P	Grey	16
6011366	100	50	98.4	110	2.5	90	200	P.P	Grey	16

Threadlock™ Green Plugs



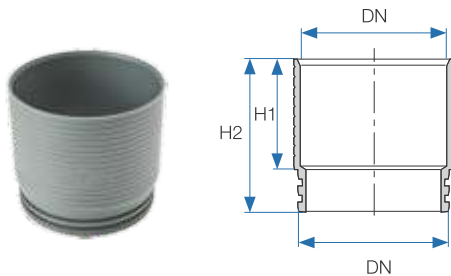
Art. No.	Size	DN Ø mm	H	Th	Material	Color	Package Quantity
60950060	2"50 - 779	50	20	2"	P.P	Green	480
60969060	2"69 - 779	69	22	2"	P.P	Green	345

Threadlock™ Green Nuts for Adjustable Ball Joint



Art. No.	Size	DN Ø mm	DN Ø mm1	Th	H	Material	Color	Package Quantity
60850060	Nut 2" 50	40	66	2"	20	P.P	Green	450
60860060	Nut 2" 69	50	76	2 3/8"	22	P.P	Green	300

Threadlock™ Height Adjustment Piece



Art. No.	DN Ø mm	H1	H2	Material	Color	Package Quantity
60203651	98.2	65	90	P.P	Grey	48

5 | Transportation, Storage and Installation

5.1 | Loading, Transport and Unloading

It is recommended to handle the pipes and fittings in their original sales packaging to protect them and prevent damage during loading and transporting.

Load and transport pipes in straight, horizontal position with the full length supported (note that the sockets are unencumbered all around), avoid extreme pressure on the pipes (straps or other heavy materials).

Unload and handle pipes carefully and lay them in a straight, horizontal position (pay attention to positioning of the sockets), on a smooth surface.

Figure 1



Figure 2



Short pipes (150/250 mm) and fittings should be packed in carton boxes. Protect them from rain and moisture and store them in a dry place.

5.2 | Storage and Protection

- It is recommended to store the pipes and fittings in their original sales packaging and to protect them from damage.
- The gasket material can withstand outdoor storage for up to 3 years and after this period must be replaced before installing.
- When using mechanical tools and machines (forklifts, cranes etc.) extra caution should be taken to prevent damage to the products.
- Optical defects (external scratches and pigment changes etc.) have no influence on the quality and/or functionality of the system.

5.3 | Cutting to length and assembly preparations

- Pipes are sold in various lengths with one or two sockets and gaskets and with plain ends pre-beveled. If cutting to length is needed, use only proper cutting tools for plastic pipes (manual or mechanical) and work according to all safety rules, using proper protective equipment.
- It is recommended to bevel the cut pipe end for easier installation (angle of approximately 15° with bevel length of 5 mm). Removing chips, shavings and sawdust is necessary before installing.

5.4 | Push-Fit Connection Method

- Check the position and integrity of the lip seal in the socket gasket slot. Clean the seal and the socket.
- Clean the plain pipe end from sawdust and scraps - it's recommended to apply a thin layer of lubricant around the plain pipe end.
- Push the plain end into the socket while slightly turning until the end of the socket sleeve, then pull the pipe back approximately 10 mm (Figure 1).

Figure 1

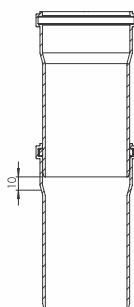
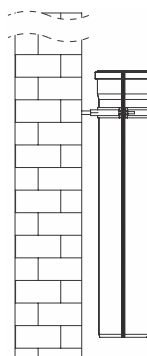


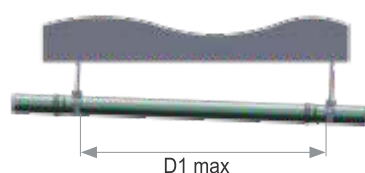
Figure 2



5.5 | Mounting with Clamps

- For mounting **HT Pro System**, use steel brackets with rubber inserts approved for acoustic insulation systems.
- Where pipes are installed vertically, every pipe must be fastened with brackets directly under the socket, to prevent pipe movement (Figure 2).
- Maximum distances between the brackets for horizontal and vertical installation, as below. (See table and Figure 3):

Pipe DN (external diameter)	Max. bracket distance for horizontal installation - D1 max	Max. bracket distance for vertical installation - D max
Ø 50	0.80	1.50
Ø 75	1.10	2.00
Ø 90	1.40	2.00
Ø 110	2.00	2.00
Ø 125	2.00	2.00
Ø 160	2.40	2.00



5.6 | Installation Instructions

- For vertical wall mounting, 2 brackets will be assembled on every floor, taking into account the specified maximum distance between brackets as per table in 5.5.3.
- Fixed bracket: The first of the two brackets on each floor should be installed in the lower third of the floor height, just below the pipe or fitting socket, and must be tightened according to the instructions in 5.6.4, below.
- Sliding bracket: The second of the two brackets should be mounted in the upper third of the floor height, with the bracket rubber only lightly touching the pipe to enable linear expansion of the pipe system (Figure 4).

Figure 4

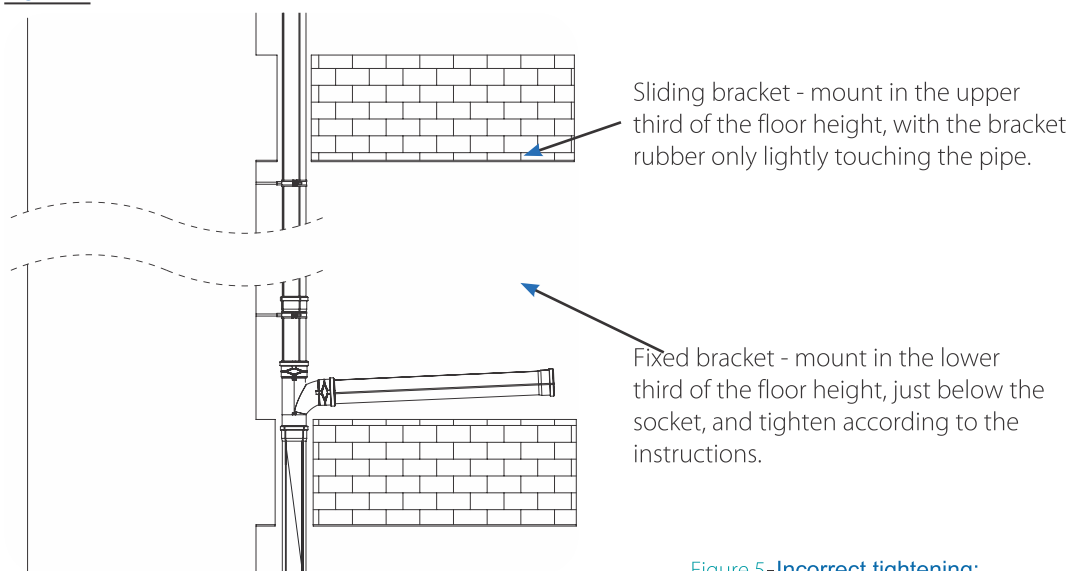
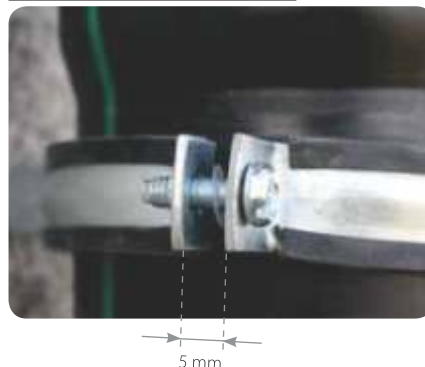


Figure 5 - Incorrect tightening:



Figure 6 - Correct tightening:



Bracket tightening: In order to prevent structure-borne noise transmission, use only recommended brackets with proper dimensions and leave space of 5 mm in the bracket aperture when screwing closed (Figures 5-6).

5.7 | Installing HT PRO System through Ceilings, Floors and Walls

- It is important in acoustic insulated systems to avoid contact between system components and rigid elements, such as walls, ceilings, floors etc., in order to prevent structure-borne noise transmission.
- For pipes traversing walls and ceilings, a space of at least 30 mm should be maintained between the pipe and any rigid material.
- If the spaces around the pipes traversing walls and floors must be filled, use only soft construction materials such as foam or glass fiber (Figure 7).
- For improved hydraulic flow and reduced noise, 87° bends are not recommended to be used for changing flow direction from vertical to horizontal. It is preferable to use two 45° bends, with 250 mm minimum length of connecting pipe between them (Figure 8).

Figure 7

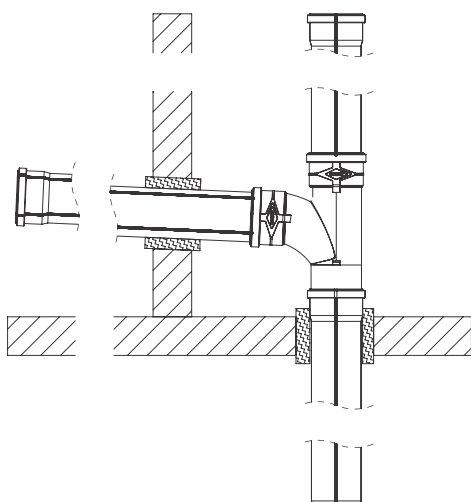
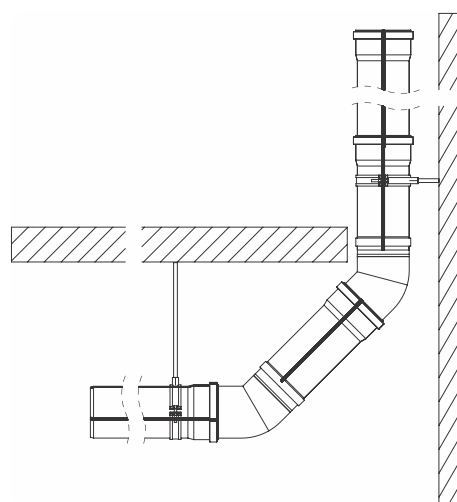
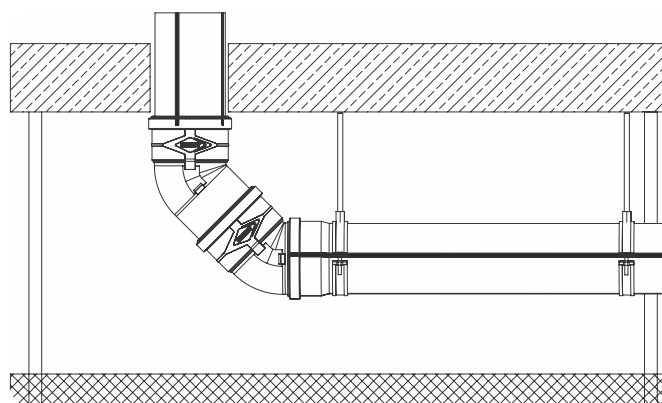


Figure 8



- When installing pipes in open spaces (such as basements, parking garages etc.), above suspended ceilings or behind screen walls, prevent any contact of other material (such as suspended ceiling, electrical, water, ventilation and air conditioning systems etc.) with the pipes (Figure 9).

Figure 6

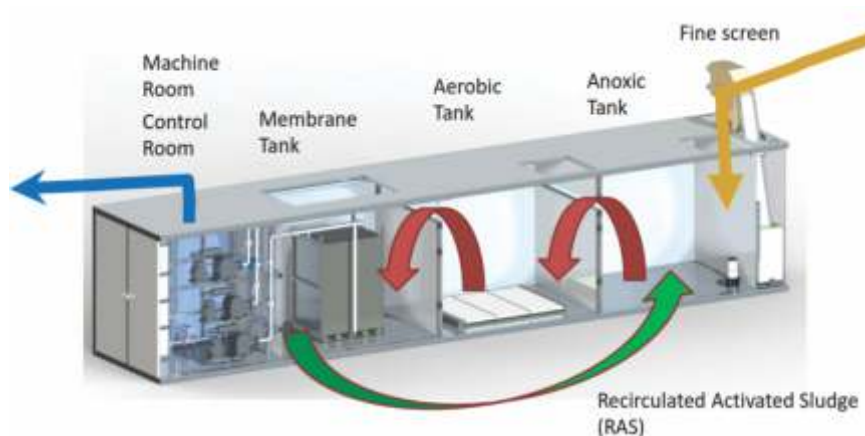


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