AQUADRAIN

Civil Engineering Drainage System for Special Requirements in Traffic Route Engineering

AQUADRAIN:

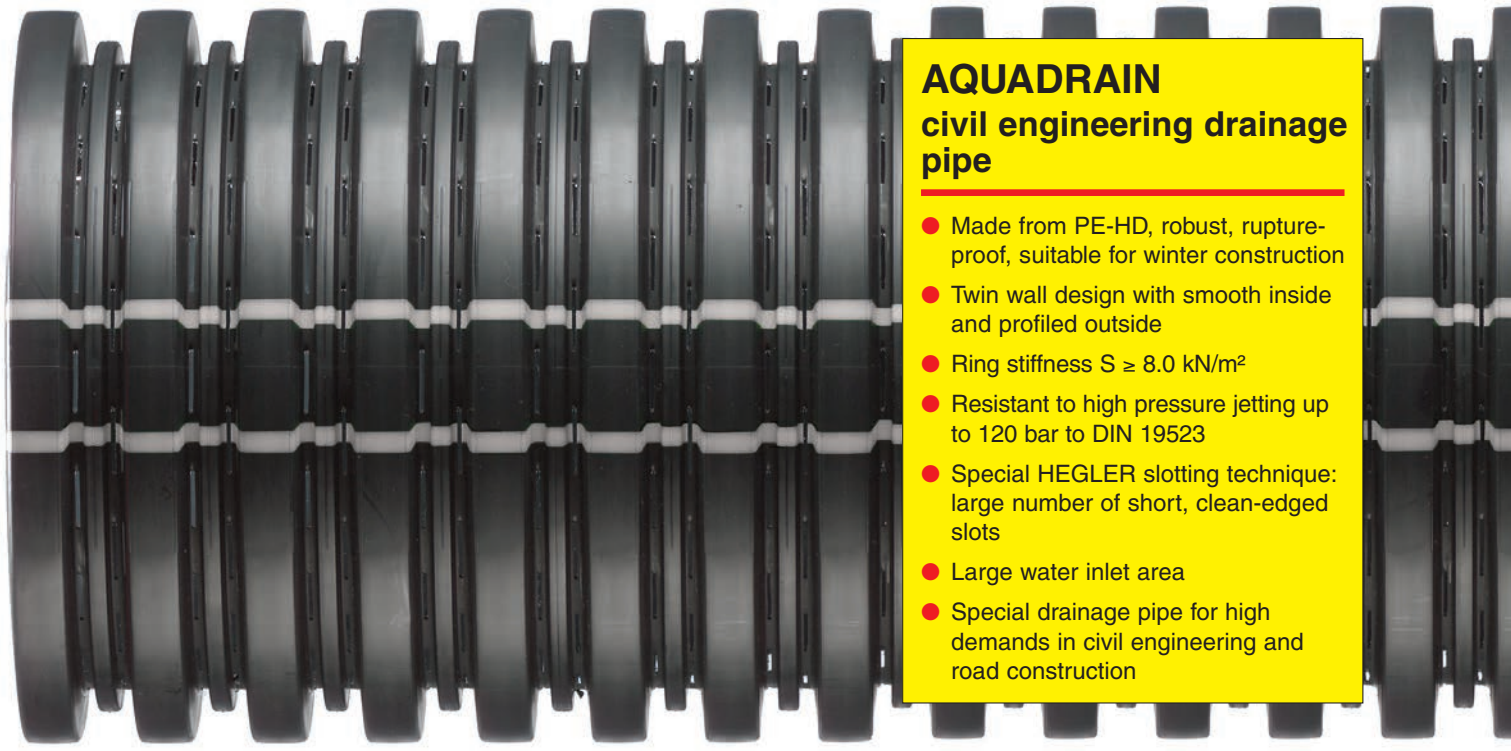
Subsoil drainage system consisting of inspection chambers and drainage pipes. PE-HD twin wall pipes with smooth inside and profiled outside in accordance with DIN 4262-1 R2.

Totally perforated pipe:	DN 150 to DN 600
Locally perforated pipe:	DN 150 to DN 600
Multi-purpose pipe:	DN 150 to DN 600

HEGLER

Corrugated and Twin Wall Pipes of Plastics

AQUADRAIN: Civil Engineering Drainage



AQUADRAIN
civil engineering drainage pipe

- Made from PE-HD, robust, rupture-proof, suitable for winter construction
- Twin wall design with smooth inside and profiled outside
- Ring stiffness S ≥ 8.0 kN/m²
- Resistant to high pressure jetting up to 120 bar to DIN 19523
- Special HEGLER slotting technique: large number of short, clean-edged slots
- Large water inlet area
- Special drainage pipe for high demands in civil engineering and road construction

AQUADRAIN – the robust drainage pipe of PE-HD

AQUADRAIN drainage pipes are twin wall pipes made from PE-HD, with smooth inside and profiled outside in accordance with type R2 of DIN 4262-1.

The twin wall pipe has a green inner surface and a black outside for protection against ultraviolet radiation.

Pipe design

With a ring stiffness of SN 8 (S ≥ 8.0 kN/m²), AQUADRAIN pipes clearly exceed the minimum requirements as per DIN 4262-1. So they are perfectly suited for building projects with increased demands in traffic route or civil engineering, which pipes with the standard SN 2 stiffness fail to meet.

Standard requirement DIN 4262-1 and ring stiffness values of AQUADRAIN

Nominal size DN	100	≥ 150
Specified value	≥ SN 4	≥ SN 2
Actual value	≥ SN 8	≥ SN 8

AQUADRAIN drainage pipes of PE-HD ensure long-term and reliable operation even in difficult conditions. Their excellent impact resistance, which is minimizing the risk of rupture and cracking, allows installation at temperatures down to -40 °C.

The hazard of deposits and incrustation at the inner layer and in the area of the slots is negligible thanks to the smooth pipe inner surface and the raw material used (PE-HD).

Unique slotting method/ Water inlet area

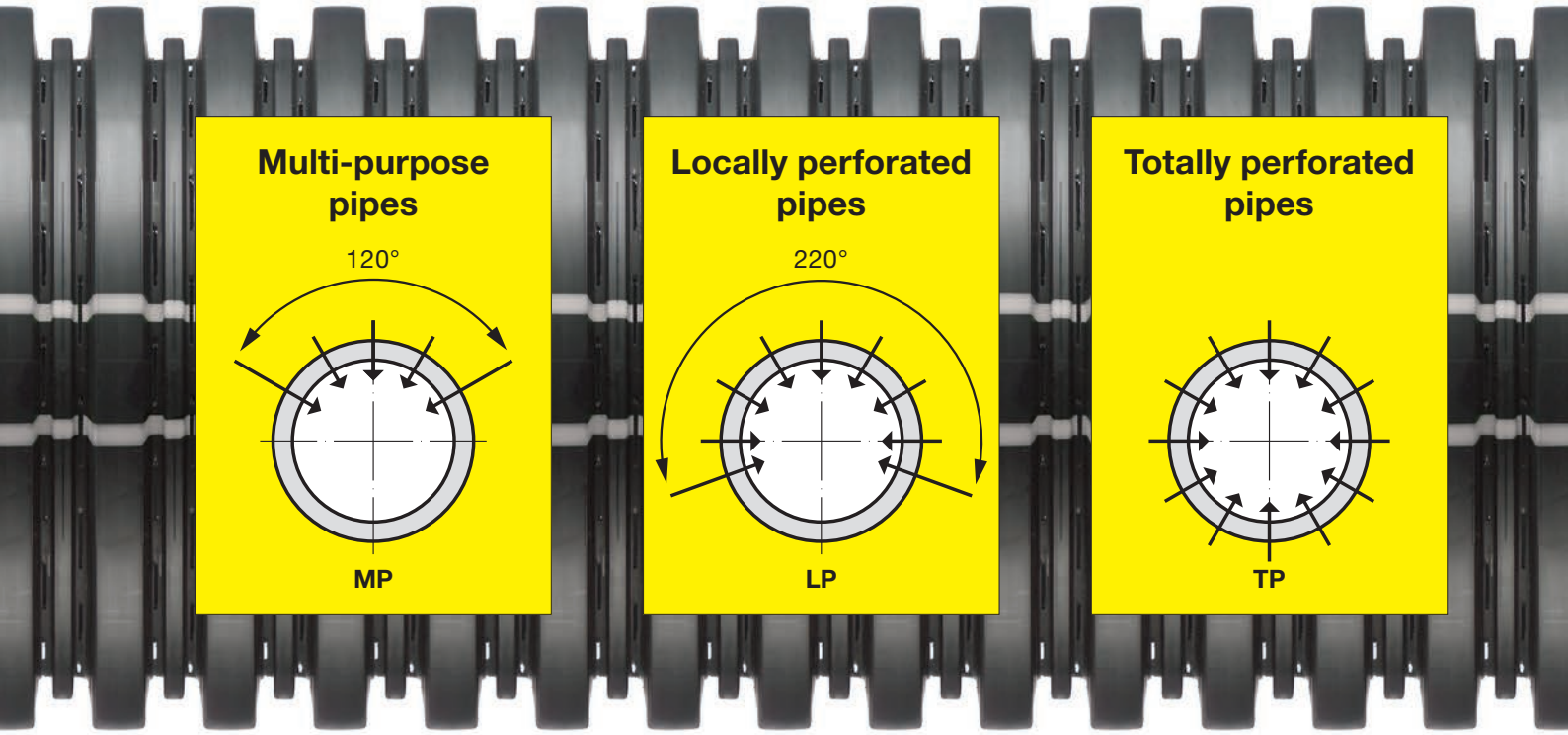
With few exceptions, the total size range of AQUADRAIN drainage pipes is available in the three standard slotting patterns:

- Multi-purpose pipe (MP)
- Locally perforated pipe (LP)
- Totally perforated pipe (TP)

All types of pipe are featuring the HEGLER-specific slot geometry characterized by a great number of short, clean-edged water inlets in the corrugation valleys and optimum water ingress. The minimum requirement of ≥ 50 cm²/m for the water inlet area is exceeded by all AQUADRAIN drainage pipes, partly by far.

MP and LP types of pipe are marked with a peak line in order to ensure proper positioning of the slotting pattern.

Pipe with Ring Stiffness of SN 8



Accessories

HEGLER offers an extensive range of fittings and accessories to allow AQUADRAIN drainage pipes to be used in sophisticated building projects.

Inspection and flushing chambers

Drainage pipes are subject to regular check-ups to ensure proper operation and impeccable condition. Professional inspection and servicing of AQUADRAIN drainage lines is rendered possible by HEGLER's inspection and flushing chambers, SIRO-*inspect* and MULTI-*inspect*.

The SIRO-*inspect* S 400 chamber (d_i = 400 mm) is fabricated from modified twin wall pipes. For this, the twin wall pipe is provided with flat plateaus suitable for taking up the respective branch lines in a size range from DN 100 to DN 250.

The MULTI-*inspect* chamber systems present a leak-tight option for the complete size range.

For technical details on our chamber systems please refer to the individual leaflets.

Quality control

AQUADRAIN drainage pipes are ensured a consistently high quality by regular factory control in accordance with DIN 4262-1.

AQUADRAIN drainage pipes should be used in accordance with the following technical regulations for construction:

- DIN EN 1610
- RAS-Ew
- ATV-DVWK-A 127

Important:

- If possible, AQUADRAIN pipes should be transported and stored on site in the original stillage. They should always be stored on an even and smooth surface.
- The raw material of the pipes is protected against damages caused by UV radiation. Nevertheless, outdoor storage for more than one year should be avoided.
- Continuous support at the given gradient must be provided in the pipe trench. The supporting layer of 10 cm must consist of sand. Local depressions should be provided at joints so that the couplings do not initially rest on the support.
- In order to ensure the durable operation of the drainage system, the pipes have to be embedded in suitable filter material. Embedding itself has to be carried through in accordance with DIN EN 1610.
- Chambers must be surrounded by a sand/gravel layer of d ≥ 20 cm. The bedding material should be compacted in layers.
- Compacting equipment should not be applied directly on top of the pipes. In the vicinity of the pipes only light compacting equipment is to be used.
- The pipes may be flushed by using high-pressure flushing devices with a maximum flushing pressure of 120 bar.
- The manufacturer's installation guide shall be observed.

Technical details

Nominal size	DN	150	200	250	300	400	500	600
Outside diameter	mm	174.8	234.9	293.5	353.4	464.0	579.5	691.9
Inside diameter	mm	153.9	198.3	252.7	304.5	396.0	497.0	595.0
Discharge area	cm²	186	305	479	735	1232	1948	2790
Standard length (20 °C)	m	6.00						
Water inlet area	cm²/m							
Multi-purpose pipe	(MP)	≥ 50	≥ 60	≥ 70	≥ 110	≥ 120	≥ 100	≥ 90
Locally perforated	(LP)*	≥ 90	≥ 140	≥ 150	≥ 210	≥ 240	≥ 210	≥ 190
Totally perforated	(TP)	≥ 150	≥ 220	≥ 320	≥ 340	≥ 360	≥ 320	≥ 290

* no stock article

Packing details

Nominal size		DN	150	200	250	300	400	500	600
Stillage contents		sticks	54	32	18	11	6	4	5
		m	324	192	108	66	36	24	30
Stillage dimensions	length	m	6.20	6.20	6.20	6.50	6.50	6.50	6.70
	width	m	1.20	1.24	1.24	1.16	1.24	1.24	2.33
	height	m	1.45	1.49	1.38	1.38	1.33	1.27	1.37

Accessories

Nominal size	DN	150	200	250	300	400	500	600
Coupling		O	O	O	O	O	O	O
Profiled seal		O	O	O	O	O	O	O
Manhole liner		O	O	O	O	O	O	O
Bend 15°		O	O	O	O	O	O	O
Bend 30°		O	O	O	O	O	O	O
Bend 45°		O	O	O	O	O	O	O
Bend 90°		O	O	O	O	O	O	O
Branch 90°		O	O	O	O	O	O	O
Branch 90°/inlet spigot end solid-wall pipe DN 160 (DIN EN 1401)		–	O	O	O	–	–	–
Branch 90°/inlet socket end solid-wall pipe DN 200 (DIN EN 1401)		–	–	–	–	O	O	O
Branch 45° to DN 150		O	O	O	O	O	O	O
Plug		O	O	O	O	O	O	O

Special fittings on request.

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HEGLER PLASTIK GMBH · D-97714 Oerlenbach/Germany · Phone +49 9725 66-0 · Fax +49 9725 66-115 · www.hegler.de