

Tri-Sector Pipe Antenna	0°	120°	240°
Frequency Range	1710–2170	1710–2170	1710–2170
Dual Polarization	X	X	X
Half-power Beam Width	65°	65°	65°
Adjust. Electr. Downtilt	0°–10°	0°–10°	0°–10°

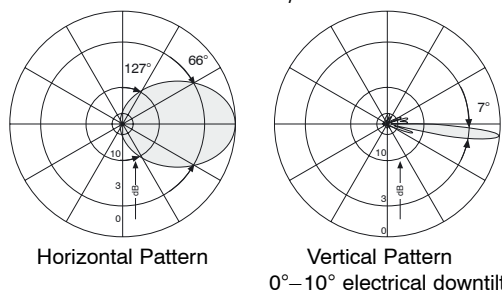
KATHREIN
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XPol Tri-Sector Pipe 1710–2170 65° 18dBi 0°–10°T

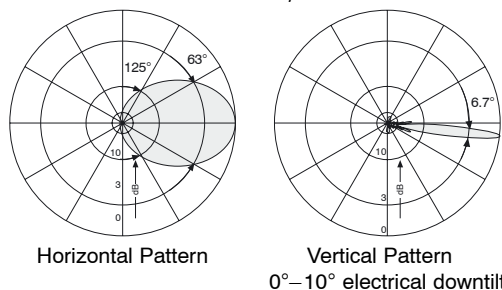
Type No.	800 10360			Electrical datas per sector
Frequency range	1710–2170			
	1710 – 1880 MHz	1850 – 1990 MHz	1920 – 2170 MHz	
Polarization	+45°, –45°	+45°, –45°	+45°, –45°	
Average gain (dBi)	17.2 ... 17.5 ... 17.2	17.6 ... 17.8 ... 17.6	17.8 ... 17.9 ... 17.4	
Tilt	0° ... 5° ... 10°	0° ... 5° ... 10°	0° ... 5° ... 10°	
Half-power beam width	Horizontal: 66°	Horizontal: 63°	Horizontal: 60°	
Copolar +45°/–45°	Vertical: 7°	Vertical: 6.7°	Vertical: 6.4°	
Electrical tilt continuously adjustable	0°–10°	0°–10°	0°–10°	
Sidelobe suppression for first sidelobe above horizon	0° ... 5° ... 10° T 17 ... 15 ... 15 dB	0° ... 5° ... 10° T 17 ... 17 ... 15 dB	0° ... 5° ... 10° T 17 ... 17 ... 15 dB	
Front-to-back ratio (180° ± 30°)	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	Copolar: > 30 dB Total power: > 25 dB	
Cross polar ratio				
Maindirection	Typically: 25 dB	Typically: 20 dB	Typically: 20 dB	
Sector	Typically: > 10 dB	Typically: > 10 dB	Typically: > 10 dB	
Isolation: Intrasystem	> 30 dB	> 30 dB	> 30 dB	
Isolation: Intersystem	> 45 dB	> 42 dB	> 42 dB	
Impedance	50 Ω	50 Ω	50 Ω	
VSWR	< 1.5	< 1.5	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc			
Max. power per input	300 W (at 50 °C ambient temperature)			



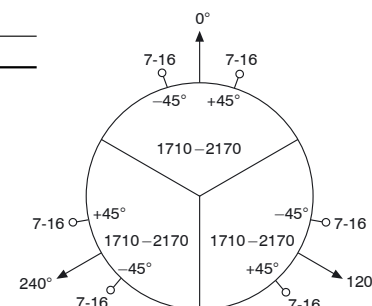
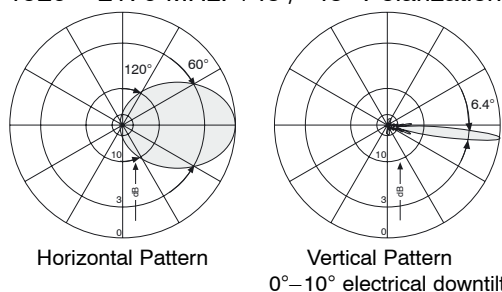
1710 – 1880 MHz: +45°/–45° Polarization



1850 – 1990 MHz: +45°/–45° Polarization



1920 – 2170 MHz: +45°/–45° Polarization



Mechanical specifications	
Input	3 x 2 x 7-16 female
Connector position	Bottom – inside service area
Adjustment mechanism	3 x 1, Position bottom continuously adjustable inside service area
Weight	56 kg
Wind load	320 N (at 150 km/h)
Max. wind velocity	200 km/h
Natural frequency	19 – 21 Hz
Damping ratio	0.032
Mechanical interface	Flange connection 12 x 12M at a graduated diameter of 208 mm 0°–360° continuously adjustable (for further details see application note)
Packing size	2030 x 400 x 400 mm
Height/ diameter	1823 / 230 and 280 mm

Tri-Sector Pipe Antenna

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Antenna area:

Reflector screen: Tin plated copper. **Radiator:** Tin plated zinc.
Cylindrical fiberglass radome: The max. radome diameter is only 230 mm. Fiberglass material guarantees optimum performance with regards to stability, stiffness, UV resistance and painting. The colour of the radome is similar to light grey RAL 7035.
All screws and nuts: Stainless steel.

Service area:

Cylindrical shaped steel construction, hot-dip galvanized, for the integration of 3 Remote Control Units (RCU), openings for the access to RCU unit and to cables and to the clamping collar for the fixation of the antenna on the pole provided by customer. Service area covered by a slotted radome tube closed with quick-release fasteners.

Accessories:

(to be ordered separately)

- Remote Control Unit (RCU) to provide remotely controlled adjustable electrical downtilt.
- Flexible Sealing Frame for the installation of max. 6 feeder cables (1/2 inch to 1 1/4 inch) and max. 3 RCU control cables.

Grounding:

The metal parts of the antenna including the mounting kit and the inner conductors are DC grounded.

Environmental conditions:

Kathrein cellular antennas are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E. The antennas exceed this standard with regard to the following items:

- Low temperature: –55 °C
- High temperature (dry): +55 °C

Ice protection: Due to the very sturdy antenna construction and the protection of the radiating system by the radome, the antenna remains operational even under icy conditions.

Environmental tests:

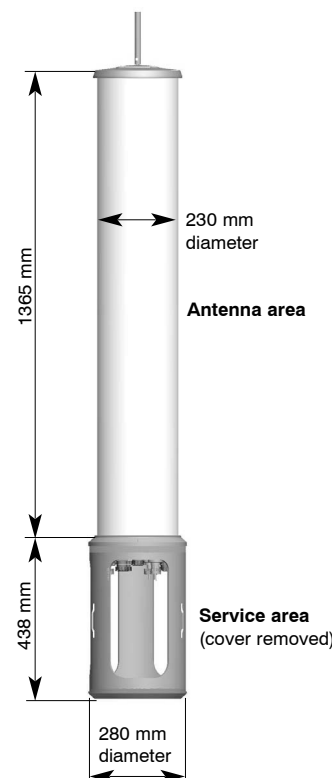
Kathrein antennas have passed environmental tests as recommended in ETS 300 019-2-4. The homogenous design of Kathrein's antenna families use identical modules and materials. Extensive tests have been performed on typical samples and modules.

Application note:

For further information about antenna and accessories see the application note. It can be downloaded under:

German: www.kathrein.de/de/mca/index_kundenportal.htm

English: www.kathrein.de/en/mca/index_customerportal.htm



Please note:

As a result of more stringent legal regulations and judgements regarding product liability, we are obliged to point out certain risks that may arise when products are used under extraordinary operating conditions.

The mechanical design is based on the environmental conditions as stipulated in ETS 300 019-1-4, which includes the static mechanical load imposed on an antenna by wind at maximum velocity. Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating support structures) or vortex-induced across-wind vibration may result in the breakage of an antenna or even cause it to fall to the ground. These facts must be considered according to DIN 4131 annex A2 or EN 1991-1-4 part 1.4 during the site planning process.

The installation team must be properly qualified and also be familiar with the relevant national safety regulations.

The details given in our data sheets have to be followed carefully when installing the antennas and accessories.

The limits for the coupling torque of RF-connectors, recommended by the connector manufacturers must be obeyed.

Any previous datasheet issues have now become invalid.

