Summary – Omnidirectional Antennas 370 – 470 MHz

KATHREIN
Antennen · Electronic

Type					Type No.	Height [mm]	Input	Page
VPol Omni	370–430	360°	2dBi		737003	555	N female	52
VPol Omni	406–470	360°	2dBi		K751121	510	N female	52
VPol Omni	380–406	360°	5dBi		80010448	1400	7-16 female	53
VPol Omni	380–400	360°	5dBi		K751537	1612	7-16 female	54
VPol Omni	406–430	360°	5dBi		K7515211	1273	N female	55
VPol Omni	440–470	360°	5dBi		K7515221	1144	N female	55
VPol Omni	380–400	360°	7dBi		80010392	2104	7-16 female	56
VPol Omni	406–430	360°	7dBi		728888	2016	7-16 female	57
VPol Omni	440–470	360°	7dBi		721388	2016	N female	57
VPol Omni	440–470	360°	7dBi		720880	2016	7-16 female	57
VPol Omni	380–400	360°	7.5dBi		K751637	2840	7-16 female	58
VPol Omni	380–400	360°	7.5dBi	8.5°T	737545	3282	7-16 female	59
VPol Omni	380–400	360°	8dBi	5°T	80010434	3282	7-16 female	60
VPol Omni	410–430	360°	8dBi	8.5°T	737546	3114	7-16 female	61
VPol Omni	450–470	360°	8.5dBi		742155	3113	7-16 female	62
VPol Omni	380–470	360°	4dBi		K752921	315	N female	63

Omnidirectional Antennas
Vertical Polarization

370...470

V

KATHREIN
Antennen · Electronic

TETRA/
TETRAPOL

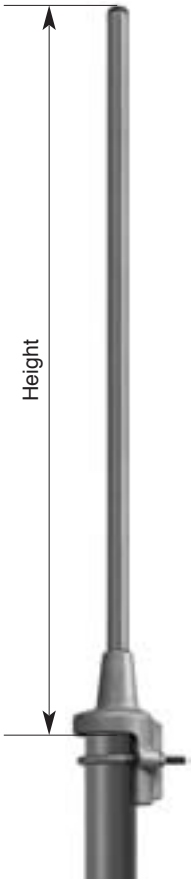
737003: VPol Omni 370–430 360° 2dBi
K751121: VPol Omni 406–470 360° 2dBi

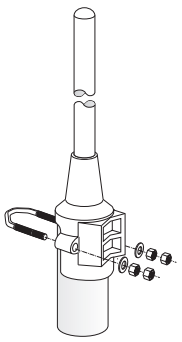
Type No.	737003	K751121
Frequency range	370 – 430 MHz	406 – 470 MHz
Polarization	Vertical	
Gain	2 dBi	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3	< –150 dBc (2 x 37 dBm carrier)	
Max. power	100 W (at 50 °C ambient temperature)	

Material: Radiator: Brass.
Radome: Fiberglass, dia. 21 mm, colour: Grey.
Base: Aluminum.
Mounting U-bolt and all screws and nuts: Stainless steel.

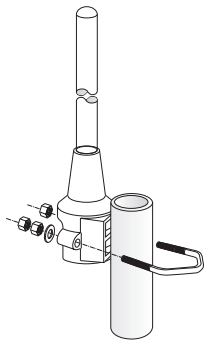
Mounting: The antenna can be attached in two ways with the supplied mounting kit:
1. On the tip of any tubular mast of 40 – 54 mm dia. (connecting cable runs inside the mast).
2. Laterally at the tip of any tubular mast of 20 – 54 mm dia. (connecting cable runs outside the mast).

Grounding: All metal parts of the antenna including the inner conductor are DC grounded.

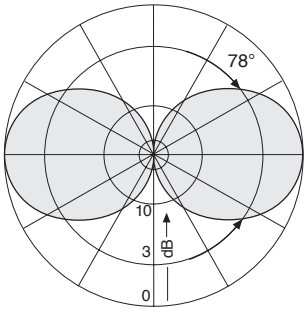




On the tip of a tubular mast



Laterally at the tip of a tubular mast



Vertical Pattern

Mechanical specifications	737 003	K 75 11 21
Input	N female	
Connector position	Bottom	
Weight	1.0 kg	0.8 kg
Radome diameter	21 mm	
Wind load	20 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size [mm]	112 x 97 x 654	112 x 97 x 614
Height [mm]	555	515

Side-mounting brackets see cataloge part “Mechanical Accessories”

Omnidirectional Antenna
Vertical Polarization

380–406

V

KATHREIN
Antennen · Electronic

TETRA/
TETRAPOL

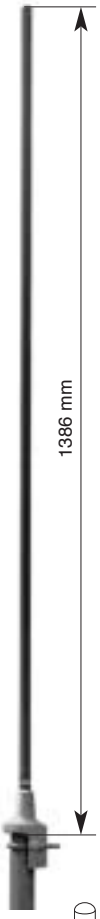
VPol Omni 380–406 360° 5dBi

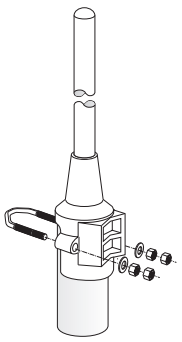
Type No.	80010448
Frequency range	380 – 406 MHz
Polarization	Vertical
Gain	5 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation (2 x 43 dBm carrier)	< –150 dBc
Max. power	500 W (at 50 °C ambient temperature)

Material: Radiator: Brass.
Radome: Fiberglass colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

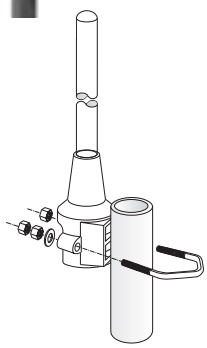
Mounting: The antenna can be attached in two ways with the supplied mounting kit:
1. On the tip of any tubular mast of 40 – 54 mm dia. (connecting cable runs inside the mast).
2. Laterally at the tip of any tubular mast of 20 – 54 mm dia. (connecting cable runs outside the mast).

Grounding: All metal parts of the antenna as well as the inner conductor and the mounting kit are DC grounded.

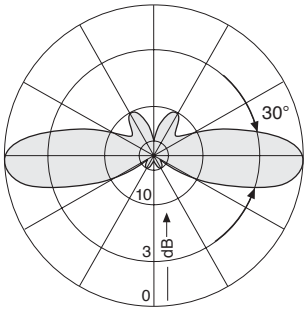




On the tip of a tubular mast



Laterally at the tip of a tubular mast



Vertical Pattern

Mechanical specifications	
Input	7-16 female
Connector position	Bottom
Weight	1.5 kg
Radome diameter	21 mm
Wind load	43 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	112 x 97 x 1516 mm
Height	1386 mm

Side-mounting brackets see cataloge part “Mechanical Accessories”

Omnidirectional Antenna
Vertical Polarization

380–400

V

KATHREIN
Antennen · Electronic

TETRA/
TETRAPOL

VPol Omni 380–400 360° 5dBi

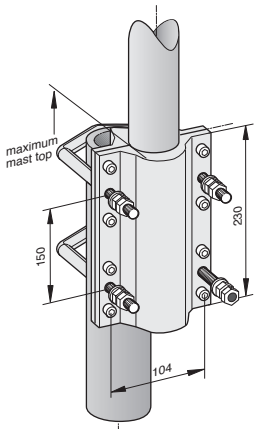
Type No.	K751537
Frequency range	380 – 400 MHz
Polarization	Vertical
Gain	5 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)
Max. power	500 W (at 50 °C ambient temperature)

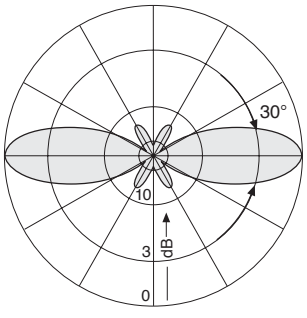
Material: Radiator: Copper and brass. Radome: Fiberglass, colour: Grey. Base: Weather-proof aluminum. Mounting kit, screws and nuts: Stainless steel.

Mounting: The antenna can be attached laterally at the tip of a tubular mast of 50 – 94 mm diameter with two U-bolt brackets supplied with the antenna (connecting cable runs outside the mast).

Anti-static protection: All metal parts of the antenna as well as the supplied clamp attachment are grounded. The inner conductor is capacitively coupled.

Lightning protection: The antenna is designed to withstand a lightning current of up to 150 KA (impulse: 10/350 μs), according to IEC 62305 parts 1–4 and VDE 0855-300, and thereby fulfils the requirements of lightning protection class II. Grounding cross-section: 22 mm² copper.





Vertical Pattern

Mechanical specifications	
Input	7-16 female
Connector position	Bottom
Weight	5.5 kg
Radome diameter	51 mm
Wind load	140 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	1878 x 206 x 152 mm
Height	1612 mm

Side-mounting brackets see cataloge part “Mechanical Accessories”

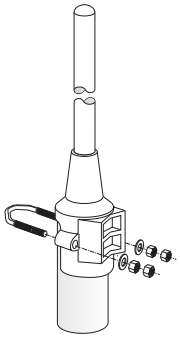
K 75 15 21 1: VPol Omni 406–430 360° 5dBi
K 75 15 22 1: VPol Omni 440–470 360° 5dBi

Type No.	K7515211	K7515221
Frequency range	406 – 430 MHz	440 – 470 MHz
Polarization	Vertical	
Gain	5 dBi	
Impedance	50 Ω	
VSWR	< 1.5	
Max. power	55 W (at 50 °C ambient temperature)	

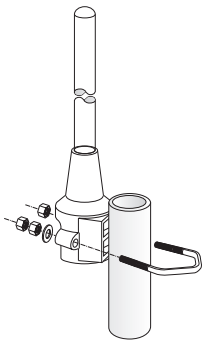
Material: Radiator: Brass.
Radome: Fiberglass, dia. 21 mm, colour: Grey.
Base: Aluminum.
Mounting U-bolt and all screws and nuts: Stainless steel.

Mounting: The antenna can be attached in two ways with the supplied mounting kit:
1. On the tip of any tubular mast of 40 – 54 mm dia. (connecting cable runs inside the mast).
2. Laterally at the tip of any tubular mast of 20 – 54 mm dia. (connecting cable runs outside the mast).

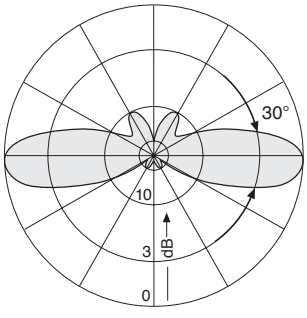
Grounding: All metal parts of the antenna including the inner conductor are DC grounded.



On the tip of a tubular mast



Laterally at the tip of a tubular mast



Vertical Pattern

Mechanical specifications	K7515212	K7515221
Input	N female	
Connector position	Bottom	
Weight	1.2 kg	
Wind load	40 N (at 150 km/h)	35 N (at 150 km/h)
Max. wind velocity	200 km/h	
Packing size [mm]	1350 x 110 x 100	1250 x 110 x 100
Height	1273 mm	1144 mm

Omnidirectional Antenna
Vertical Polarization

380–400

V

KATHREIN
Antennen · Electronic

TETRA/
TETRAPOL

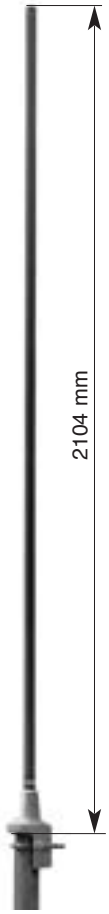
VPol Omni 380–400 360° 7dBi

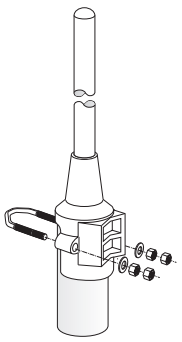
Type No.	80010392
Frequency range	380 – 400 MHz
Polarization	Vertical
Gain	7 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)
Max. power	200 W (at 50 °C ambient temperature)

Material: Radiator: Brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

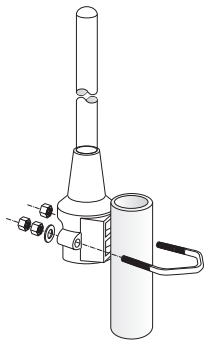
Mounting: The antenna can be attached in two ways with the supplied mounting kit:
1. On the tip of any tubular mast of 40 – 54 mm dia. (connecting cable runs inside the mast).
2. Laterally at the tip of any tubular mast of 20 – 54 mm dia. (connecting cable runs outside the mast).

Grounding: All metal parts of the antenna as well as the inner conductor and the mounting kit are DC grounded.

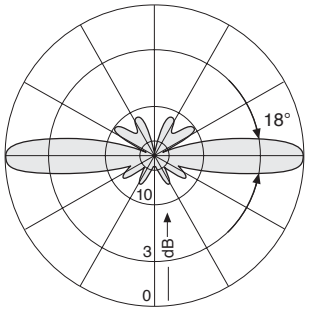




On the tip of a tubular mast



Laterally at the tip of a tubular mast



Vertical Pattern

Mechanical specifications	
Input	7-16 female
Connector position	Bottom
Weight	1.9 kg
Radome diameter	21 mm
Wind load	60 N (at 150 km/h)
Max. wind velocity	180 km/h
Packing size	112 x 97 x 2226 mm
Height	2104 mm

Side-mounting brackets see cataloge part “Mechanical Accessories”

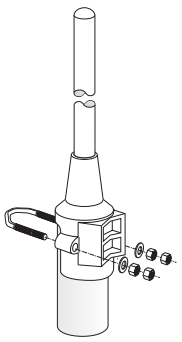
721388, 720880: VPol Omni 440–470 360° 7dBi
728888: VPol Omni 406–430 360° 7dBi

Type No.	721388 / 720880	728888
Frequency range	440 – 470 MHz	406 – 430 MHz
Polarization	Vertical	
Gain	7 dBi	
Impedance	50 Ω	
VSWR	< 1.5	
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc	
Max. power	500 W (at 50 °C ambient temperature)	

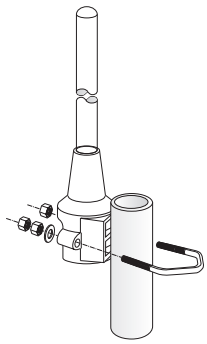
Material: Radiator: Brass.
Radome: Fiberglass, dia. 21 mm, colour: Grey.
Base: Aluminum.
Mounting U-bolt and all screws and nuts: Stainless steel.

Mounting: The antenna can be attached in two ways with the supplied mounting kit:
1. On the tip of any tubular mast of 40 – 54 mm dia. (connecting cable runs inside the mast).
2. Laterally at the tip of any tubular mast of 20 – 54 mm dia. (connecting cable runs outside the mast).

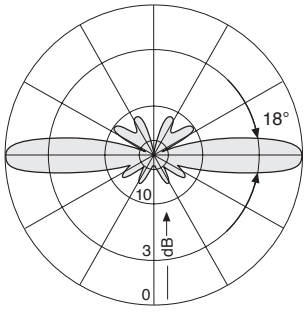
Grounding: All metal parts of the antenna including the inner conductor are DC grounded.



On the tip of a tubular mast



Laterally at the tip of a tubular mast



Vertical Pattern

Mechanical specifications

N female / 7-16 female	721388 / 720880	728888
Connector position	Bottom	
Weight	1.6 kg	
Radome diameter	21 mm	
Wind load	60 N (at 150 km/h)	
Max. wind velocity	200 km/h	
Packing size	112 x 97 x 2124 mm	
Height	2016 mm	

Omnidirectional Antenna
Vertical Polarization

380–400

V

KATHREIN
Antennen · Electronic

TETRA/
TETRAPOL

VPol Omni 380–400 360° 7.5dBi

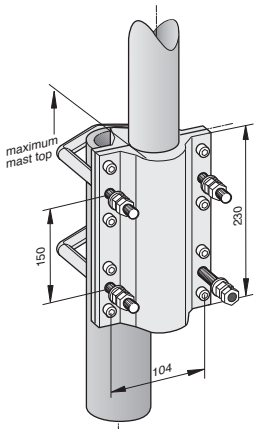
Type No.	K751637
Frequency range	380 – 400 MHz
Polarization	Vertical
Gain	7.5 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)
Max. power	500 W (at 50 °C ambient temperature)

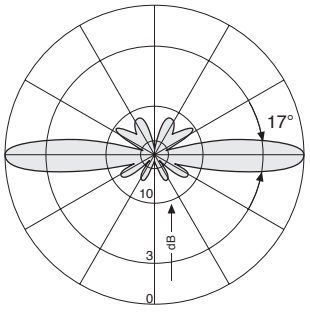
Material: Radiator: Copper and brass.
Radome: Fiberglass, dia. 51 mm, colour: Grey.
Base: Aluminum.
Mounting kit, screws and nuts: Stainless steel.

Mounting: The antenna can be attached laterally at the tip of any tubular mast of 50 – 94 mm diameter (connecting cable runs outside the mast).

Anti-static protection: All metal parts of the antenna as well as the supplied clamp attachment are grounded. The inner conductor is capacitively coupled.

Lightning protection: The antenna is designed to withstand a lightning current of up to 150 KA (impulse: 10/350 μs), according to IEC 62305 parts 1–4 and VDE 0855-300, and thereby fulfils the requirements of lightning protection class II. Grounding cross-section: 22 mm² copper.





Vertical Pattern

Mechanical specifications	
Input	7-16 female
Connector position	Bottom
Weight	8.0 kg
Radome diameter	51 mm
Wind load	200 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	3316 x 148 x 112 mm
Height	2840 mm

Side-mounting brackets see cataloge part “Mechanical Accessories”

Omnidirectional Antenna
Vertical Polarization
Fixed Elctrical Downtilt

380–400

V

8.5°

KATHREIN
Antennen · Electronic

TETRA/
TETRAPOL

VPol Omni 380–400 360° 7.5dBi 8.5°T

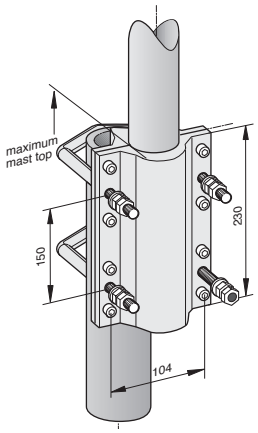
Type No.	737545
Frequency range	380 – 400 MHz
Polarization	Vertical
Gain	7.5 dBi
Electrical tilt	8.5°, fixed
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc
Max. power	500 W (at 50 °C ambient temperature)

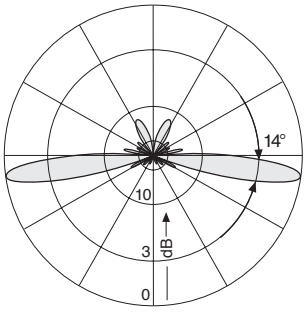
Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Mounting: The antenna can be attached laterally at the tip of any tubular mast of 50 – 94 mm diameter (connecting cable runs outside the mast).

Anti-static protection: All metal parts of the antenna as well as the supplied clamp attachment are grounded. The inner conductor is capacitively coupled.

Lightning protection: The antenna is designed to withstand a lightning current of up to 150 KA (impulse: 10/350 μs), according to IEC 62305 parts 1–4 and VDE 0855-300, and thereby fulfils the requirements of lightning protection class II. Grounding cross-section: 22 mm^2 copper.





Vertical Pattern
8.5° electrical downtilt

Mechanical specifications	
Input	7-16 female
Connector position	Bottom
Weight	8.0 kg
Radome diameter	51 mm
Windload	230 N (at 150 km/h)
Max. wind velocity	180 km/h
Packing size	3550 x 148 x 112 mm
Height	3282 mm

Omnidirectional Antenna
Vertical Polarization
Fixed Electrical Downtilt

380–400

V

5°

KATHREIN
Antennen · Electronic

TETRA/
TETRAPOL

VPol Omni 380–400 360° 8dBi 5°T

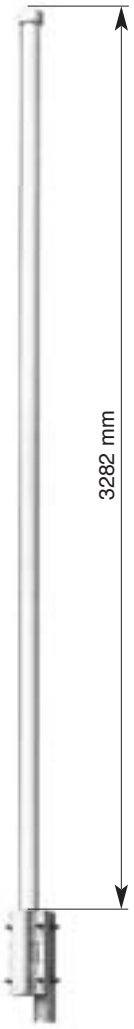
Type No.	80010434
Frequency range	380 – 400 MHz
Polarization	Vertical
Gain	8 dBi
Electrical tilt	5°, fixed
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3	< –150 dBc (2 x 43 dBm carrier)
Max. power	500 W (at 50 °C ambient temperature)

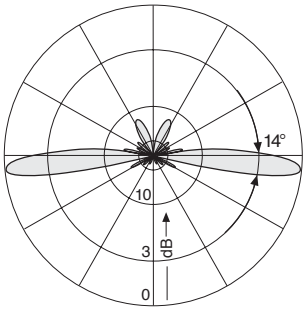
Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Mounting: The antenna can be attached laterally at the tip of any tubular mast of 50 – 94 mm diameter (connecting cable runs outside the mast).

Anti-static protection: All metal parts of the antenna as well as the supplied clamp attachment are grounded. The inner conductor is capacitively coupled.

Lightning protection: The antenna is designed to withstand a lightning current of up to 150 KA (impulse: 10/350 μs), according to IEC 62305 parts 1–4 and VDE 0855-300, and thereby fulfils the requirements of lightning protection class II. Grounding cross-section: 22 mm² copper.





Vertical Pattern
5° electrical downtilt

Mechanical specifications	
Input	7-16 female
Connector position	Bottom
Weight	8.5 kg
Radome diameter	51 mm
Wind load	230 N (at 150 km/h)
Max. wind velocity	180 km/h
Packing size	3550 x 148 x 112 mm
Height	3282 mm

Side-mounting brackets see cataloge part “Mechanical Accessories”

Omnidirectional Antenna
Vertical Polarization
Fixed Electrical Downtilt

410–430

V

8.5°

KATHREIN
Antennen · Electronic

TETRA/
TETRAPOL

VPol Omni 410–430 360° 8dBi 8.5°T

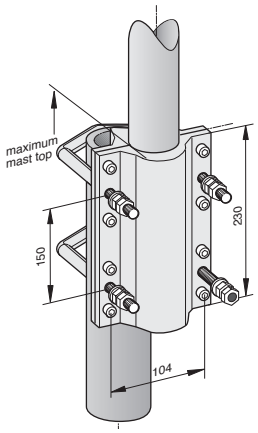
Type No.	737546
Frequency range	410 – 430 MHz
Polarization	Vertical
Gain	8 dBi
Electrical tilt	8.5°, fixed
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc
Max. power	500 W (at 50 °C ambient temperature)

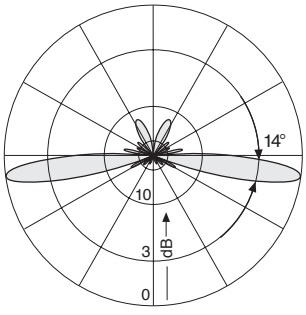
Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Mounting: The antenna can be attached laterally at the tip of any tubular mast of 50 – 94 mm diameter (connecting cable runs outside the mast).

Anti-static protection: All metal parts of the antenna as well as the supplied clamp attachment are grounded. The inner conductor is capacitively coupled.

Lightning protection: The antenna is designed to withstand a lightning current of up to 150 KA (impulse: 10/350 μs), according to IEC 62305 parts 1–4 and VDE 0855-300, and thereby fulfils the requirements of lightning protection class II. Grounding cross-section: 22 mm^2 copper.





Vertical Pattern
8.5° electrical downtilt

Mechanical specifications	
Input	7-16 female
Connector position	Bottom
Weight	8.0 kg
Radome diameter	51 mm
Wind load	220 N (at 150 km/h)
Max. wind velocity	180 km/h
Packing size	3376 x 196 x 102 mm
Height	3114 mm

Side-mounting brackets see cataloge part “Mechanical Accessories”

Omnidirectional Antenna
Vertical Polarization

450–470

V

KATHREIN
Antennen · Electronic

VPol Omni 450–470 360° 8.5dBi

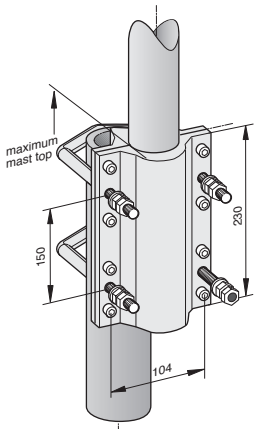
Type No.	742155
Frequency range	450 – 470 MHz
Polarization	Vertical
Gain	8.5 dBi
Impedance	50 Ω
VSWR	< 1.5
Intermodulation IM3 (2 x 43 dBm carrier)	< –150 dBc
Max. power	500 W (at 50 °C ambient temperature)

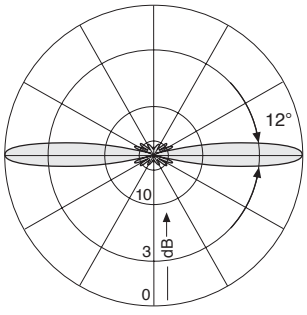
Material: Radiator: Copper and brass.
Radome: Fiberglass, colour: Grey.
Base: Weather-proof aluminum.
Mounting kit, screws and nuts: Stainless steel.

Mounting: The antenna can be attached laterally at the tip of any tubular mast of 50 – 94 mm diameter (connecting cable runs outside the mast).

Anti-static protection: All metal parts of the antenna as well as the supplied clamp attachment are grounded. The inner conductor is capacitively coupled.

Lightning protection: The antenna is designed to withstand a lightning current of up to 150 KA (impulse: 10/350 μs), according to IEC 62305 parts 1–4 and VDE 0855-300, and thereby fulfils the requirements of lightning protection class II. Grounding cross-section: 22 mm² copper.





Vertical Pattern

Mechanical specifications	
Input	7-16 female
Connector position	Bottom
Weight	8.0 kg
Radome diameter	51 mm
Wind load	220 N (at 150 km/h)
Max. wind velocity	180 km/h
Packing size	3379 x 206 x 152 mm
Height	3113 mm

Side-mounting brackets see cataloge part “Mechanical Accessories”

Half-wave Dipole Side-mounted Vertical Polarization

380–470

V

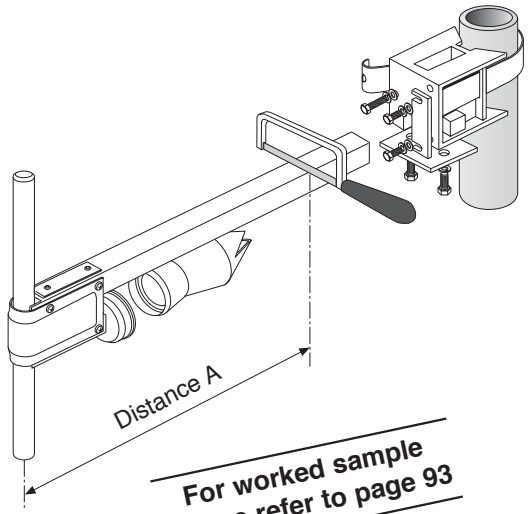
KATHREIN
Antennen · Electronic

- **Omnidirectional antenna with variable antenna-to-mast distance.**
- **Depending on the distance of the radiator from the mast edge and also on the mast diameter, various radiation patterns can be achieved.**

VPol Omni 380–470 360° 4dBi

Type No.	K752921
Frequency range	380 – 470 MHz
Polarization	Vertical
Gain	4 dBi
Impedance	50 Ω
VSWR	400 – 470 MHz: < 1.5 380 – 400 MHz: < 1.5; A = λ/4 380 – 400 MHz: < 2.0; A > λ/4
Max. power	450 W (at 50 °C ambient temperature)

Material:	Radiator: Hot-dip galvanized steel. Horizontal support pipe: Stainless steel. Mount: Aluminum. Tightening band and all screws and nuts: Stainless steel. Feedpoint radome: Fiberglass.
Attachment:	To tubular masts of 60 – 320 mm diameter using supplied stainless steel tightening band (20 mm wide, 0.8 mm gauge).
Special features:	The distance from tubular mast to radiator is adjustable from 170 – 580 mm.
Grounding:	All metal parts of the antenna including the inner conductor and the supplied mount are DC grounded.
Horizontal radiation pattern:	Depending on the distance A (edge of pipe mast to dipole) – see sketch.



For worked sample please refer to page 93

Mechanical specifications	
Input	N female
Weight	1.6 kg
Wind load	40 N (at 150 km/h)
Max. wind velocity	200 km/h
Packing size	880 x 330 x 100 mm
Length	315 mm