

### Radomeless X-Band dual polarized radar

HYDRIX® II X-band weather radar has been specially designed for hydro-meteorological applications. Owing to its simultaneous dual polarization capability, it provides quantitative precipitation measurements filtered from non-meteorological echoes, and offers an accuracy level equivalent to 11,000 rain gauges installed within a 60 km radius.

Associated with ZPHI® software, it reaches much better accuracy than legacy S- and C-band radars traditionally used by national meteorology agencies.

HYDRIX® II is perfectly suited for:

- Local applications such as catchment areas subject to flash floods;
- Gap-filling of legacy radar networks in vulnerable areas;
- Precipitation measurements in areas with strong ground clutter such as urban or mountainous areas;
- Monitoring airport's meteorological environment.

#### ADVANTAGES

- Compact and easy to install.
- Low infrastructure cost.
- High sensitivity.
- Sealed to outdoor aggressions (sand dust, insects...).
- Air-conditioned electronics for a better reliability.
- Immune to attenuation/extinction due to wet radome.

#### PROVEN PRODUCT

NOVIMET installed the first HYDRIX® system in February 2006 to monitor the Riviera coast. Since then, it has measured precipitation continuously for operational uses in meteorology and hydrology.

#### TECHNICAL SPECIFICATIONS:

##### Offset Antenna

Dual polarization : H and V  
 Diameter : 1.5 x 1.6 m  
 Beam width : 1.5° @ 3dB  
 Antenna Gain : ≥40 dB  
 Side Lobes : ≤ -30 dB  
 Rotating speed : 3.33 rpm typ.  
 6 rpm (option)

##### Transmitter/Receiver

Magnetron Transmitter  
 Frequency : 9.3 – 9.5 GHz  
 Peak power : 80 kW (fixed freq.)  
 70 kW (adj. freq.)  
 Pulse Width : 0.25 to 2 μs  
 Duty cycle : 1/1000  
 PRF : 250 to 2,000 Hz  
 3,000 Hz (option)  
 Simultaneous H & V transmission  
 Noise figure : 2.5 dB

##### Monitoring software TELRAD

Local & remote modes  
 Raw data display  
 BITE: Built-In Test Equipment

##### Measured Parameters:

Reflectivity : Z  
 Differential Phase : PHIDP  
 Correlation Coefficient : RHOHV  
 Differential Reflectivity : ZDR  
 Doppler Velocity : VEL  
 Doppler Spectral Width : SPWI

##### Performances:

Sensitivity : 0 dBZ @ 100 km  
 Velocity span : up to ±64 m/s  
 ±96 m/s (option)  
 Detection range : 300 km typical  
 600 km max.  
 Range for accurate QPE: 60 km  
 Wind resistance:  
 • Operation : 40 m/s (144 km/h)  
 • Gust : 50 m/s (180 km/h)  
 • Survival : >50 m/s (180 km/h)  
 Temperature range: -25°C to +50°C

