

Overview: The Korean Meteorological Administration (KMA) research aircraft is equipped with an array of meteorological instrumentation capable of air quality, remote sensing, cloud physics, aerosol, and weather modification missions. Ample cabin space and inlet ports allow nearly 30 instruments to be carried onboard along with enough room for three flight scientists. Atmospheric sampling from the surface to above 30,000 feet and a flight duration of up to six hours are possible with full fuel. Close integration of software and hardware allow scientists to access instrument data in real time and post-process data within one hour of flight completion.



SD3	
3PZ	









A 275 amp DC research power bus Modifications include two specially designed pylons for provides both system and de-ice power carrying canister instruments below the wings, hard points to all instruments. Four AC inverters and structural doublers for instruments, and wing-mounted burn-in-place and belly-mounted ejectable flare racks. A instruments. Research power bus is custom aluminum window plate is used to install numerous rear-facing inlets and exhaust ports.

Specifications		
Payload	2545 lbs.	
Range	1,806 nmi	
Ceiling	35,000 ft	
Max Climb Rate	2,731 fpm	
Endurance	Up To 6 hrs	
Weather	Known Icing Cat 2 Certified	
Sampling Speed	130-200 KIAS	

Research Power

provide 115 VAC to research approved and installed under the STC.





World Class Platform for Weather Modification and Atmospheric Research

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Modifications



	All Miss
AIMMS	Measures aircraft locati humidity, and three-dim
Dew	Measures dew point ter
M300	Data Acquisition System
TAT	Measures atmospheric
	Aerosol M
ISO	An inlet to sample atmo
Neph	Measures aerosols ligh
OPC	Aerosols from 0.25 mic diameter binned into 31 number aerosol concer
SP2	Measures the scattering individual particles.
	Air Quality
CRDS	Measures CO, CO ₂ , CH
NOx	Measures concentration
NOy	Measures NO_y (sum of HNO_2 , HNO_3 , PAN, org nitrates) concentration.
O3	Measures concentration
SO2	Measures concentration
	Cloud Physic
CCNC	Measures cloud conder
CCP	Measures two-dimension to 1.55 mm, the concern microns to 50 microns, (LWC).
PIP	
	Detects cloud particles
WCM	Detects cloud particles Measures Liquid Water Content (TWC), and Ice
WCM V	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifica
WCM V Airlink	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifics Transmits aircraft data
WCM V Airlink BIP Flare	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifics Transmits aircraft data Holds flares in place to
WCM V Airlink BIP Flare Eject Flare	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifica Transmits aircraft data Holds flares in place to Drops lit flares to seed
WCM V Airlink BIP Flare Eject Flare	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifica Transmits aircraft data Holds flares in place to Drops lit flares to seed Remote Sensi
WCM V Airlink BIP Flare Eject Flare AVAPS	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifica Transmits aircraft data Holds flares in place to Drops lit flares to seed Remote Sensi Measures atmospheric temperature, relative ho
WCM I Airlink BIP Flare Eject Flare AVAPS CAM	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifics Transmits aircraft data Holds flares in place to Drops lit flares to seed Remote Sensi Measures atmospheric temperature, relative ho Camera to capture 360
WCM I Airlink BIP Flare Eject Flare AVAPS CAM GVR	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifica Transmits aircraft data Holds flares in place to Drops lit flares to seed Remote Sensi Measures atmospheric temperature, relative ho Camera to capture 360 Measures water vapor
WCM Local Carlow Carlo	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifica Transmits aircraft data Holds flares in place to Drops lit flares to seed Remote Sensi Measures atmospheric temperature, relative ho Camera to capture 360 Measures water vapor
WCM Local Airlink BIP Flare Eject Flare AVAPS AVAPS CAM CAM SFMR SFMR	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifica Transmits aircraft data Holds flares in place to Drops lit flares to seed Remote Sensi Measures atmospheric temperature, relative ho Camera to capture 360 Measures water vapor a Vaisala Dropsonde to n Ocean surface wind sp
WCM V Airlink BIP Flare Eject Flare AVAPS AVAPS CAM SFMR	Detects cloud particles Measures Liquid Water Content (TWC), and Ice Veather Modifica Transmits aircraft data Holds flares in place to Drops lit flares to seed Drops lit flares to seed Remote Sensi Measures atmospheric temperature, relative ho Camera to capture 360 Measures water vapor Vaisala Dropsonde to n Ocean surface wind sp



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m to record all data.

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ospheric aerosols.

t scattering coefficient.

rons to 32 microns in size channels, and total ntration.

g and absorptive properties of

Mission

 I_4 , and H_2O concentrations.

ns of NO, NO₂, and NO_X.

NO, NO₂, NO₃, N₂O₅, anic nitrates and aerosol

ns of ozone.

ns of SO_2 molecules.

s Mission

nsation nuclei.

onal particles from 2 microns ntration of droplets from 2 and the liquid water content

100 microns to 6200 microns.

Content (LWC), Total Water e Water Content (IWC).

ation Mission

to ground station.

be lit to seed clouds.

clouds.

ng Mission

vertical profile of pressure, umidity, and winds.

degree video.

and liquid water profiles.

neasure vertical profiles.

eed and rain rate.

ission

ation from below the aircraft.