KEY TECHNOLOGY FEATURES

About the satellites

Basic model

Product paraeters

Four-module structure: Recoverable module, brake module, adaptation module, propulsion energy module

Mission time: 10 - 20 days

Satellite Weight: 3500kg

Satellite Size: 2740mmx4797mm

Recoverable payload weight and size: 600kg, 2.4m^3

Extension

Product paraeters

Four-module structure: Recoverable module, adaptation module, on-orbit device module, propulsion energy module

Mission time: return in 20 days, device on-orbit for a year

Satellite Weight: 3500kg

Satellite Size: 2740mmx4797mm

Recoverable payload weight and size: 600kg, 2.4m^3

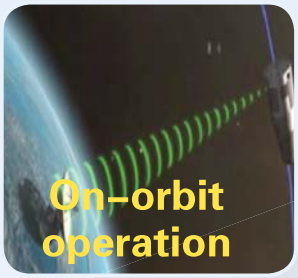
On-orbit payload weight and size: 300kg, 1.2 m^3

[Space Workshop]

How it works

Mission Begin

Experiment device delivery
10 days or12 hours before launch



Launch site: Jiuquan Satellite Launch Center
Control: Xi’an Satellite Control Center
Recovery site: Dongfeng Recovery Site
Launch vehicle: CZ-2C\CZ-2D
Orbit: circular orbit of 340km with a 43° inclination

Experiment device back to client 5 hours after return

Mission Completed

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SERVICE CAPACITY

Items	Capacity
Recoverable payload	600kg
Non-Recoverable payload	300kg
External payload	5kg
Power	400W
Data download	20GB/day
Flight time	20days、1years
Landing shock	< 10g
Quasi-state	~$10^{-6}g_0$
Micro-vibration	~$10^{-4}g_0$
Temperature	4℃ ~30℃
Environmental Measurements	radiation, temperature,pressure

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APPLICATION AREAS

Scientific experiments and space activities such as space pharmacy, space breeding, space material processing, micro-gravity research, space new technology verification, space culture and creative activities can be carried on the recoverable satellite, thanks to its orbit resources and recoverable payloads.

space pharmacy | space breeding | space material processing | micro-gravity research | space new technology verification | space culture and creative activities

SERVICE PORTFOLIO

Space Pharmacy

Space pharmacy is a high-tech field combining aerospace technology with modern bio-pharmaceutical technology. Space pharmacy aims at taking advantage of space environment unknown to the ground, such as cosmo high-energy particle flow, weightlessness, ultra vacuum, ultra clean, alternating magnetic field, abnormal circadian and other factors to induce mutation of the cell strain organisms in order to screen out high-yielding, high-quality strains and new organisms, and to achieve breakthroughs in microbial medicine, botanic medicine and animal cell medicine.

+ Space-related research and preparation services for a variety of pharmaceutical purposes, including targeted drugs, microculture and vaccine preparation, etc
+ On-orbit services including environmental monitoring, liquid/gas supply, on-orbit observation, sample storage, sample recovery, etc
+ Space pharmaceutical equipment and environment such as fungal incubators, bacteriological incubators, vaccine / virus space storage boxes, antibody-antigen reactors, etc
+ Space pharmaceutical technology consulting services

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Space breeding

Space breeding is an advanced breeding technology using recoverable spacecraft to expose biological samples to space environment (high-energy particle radiation, microgravity, super vacuum). Such unique physical environment induces mutations which allows for screening and cultivation of new varieties after returning to the ground.

+ On-orbit experiment and recovery of all kinds of plant seeds
+ Packaging services for seeds used for space breeding
+ On-orbit environment for advanced plant growth, animal cell culture and microculture
+ Space breeding technology consulting services

Space material processing

Space material processing refers to the use of space microgravity environment to study the physical and chemical features of metal, semiconductor, optical crystal and polymer materials which are difficult to do on earth. Such study will enrich material science theory. In addition, space material processing also refers to material processing in micro-gravity environment and guides material preparation and processing on earth.

+ R&D of space material processing equipment
+ Preparation and R&D of high value space material

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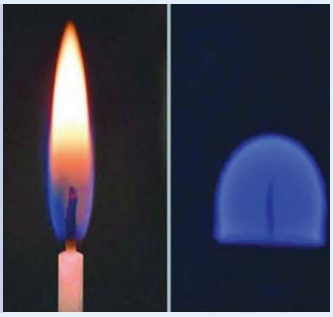
Micro-gravity research

Micro-gravity scientific research refers to the use of space microgravity environment for scientific research, including micro-gravity fluid physics, combustion science, space materials science, space biotechnology and space physics.

+ Mechanical, electronic and thermal service interfaces for scientific payloads
+ Process planning for on-orbit experiment proposal and procedure
+ Design and manufacturing of experiment equipment and device
+ On-orbit operation and data support



Space new technology verification

Space new technology verification provides flight test for new principles, new technologies, new proposals, new equipment and new materials in spacecraft technologies. It helps to test key technologies in system establishment and operation, to accumulate flight experience, to lower cost and operation risks.

+ Mechanical, electronic and thermal service interfaces for experimental payloads
+ Process planing for on-orbit experiment proposal and procedure
+ Design and manufacturing of experiment equipment and device
+ On-orbit operation and data support

Space culture and creative activities

Space culture and creative activities refer to activities using space resources and the impact of aerospace activities, such as corporate and personal souvenir on-board and advertising activities.

+ Space astronomy
+ Recoverable souvenir
+ Advertising
+ Promote public understanding for aerospace

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