#### Cryogenic and feeding units

## echo AB

### **CCS** series

#### Low temperature chamber

> CCS low temperature chambers uses compressor refrigeration technology or liquid nitrogen for impact test sample cooling. Auto-cool and constant temperature features allow the right specimen preparation according to the international standards.

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Model		CCS 65		CCS 85	CCS 85	
Cooling temperature	٥°	-60		-80		
Cooling speed	°C/min	From ambient to 0°C From 0 to -20°C From -20 to -60°C	2 1.5 1	From ambient to 0°C From 0 to -20°C From -20 to -60°C From -60 to -80°C	2 1.5 1 0.5	
Accuracy	0°	±0.3				
Timer	-	From 1 s to 99 min				
Timer resolution	S	1				
Digital thermometer resolution	0°	0.1				
Cooling media	-	Absolute Ethyl Alcohol (Purity ≥99,7%) 5,4 I approx				
Tank dimensions	mm	280x160x120				
Max. sample quanitity (10x10x55mm)	pc	60				
Motor power	kW	2.2				
Power supply	V-Hz-p	230-50/60-1				
Dimensions	mm	770x550x850				
Weight	kg	150				

#### Cryogenic and feeding units



# Automatic specimen feeding system

 ITM-S, ITM-HF and ITM-MP series can be upgraded with two types of automatic specimen feeding systems, AFS100 with capacity to test 40 specimens and ASF180 with capacity to test 12 specimens.
Systems can be connected also with three types of automatic cooling chambers



- > Specimens rack can accommodate 40 or 12 specimens
- > When used in combination with low temperature chamber, the charging system automatically place the specimen from the rack to cooling chamber and, after set temperature will be reached, take out the sample and placing to the anvil
- > Specimen positioning system automatically center the specimen automatically. After striking, the pendulum automatically rises to starting position for the next impact test, meanwhile the broken specimen is tacked out by the collection and filtering device.

The time of automatic test cycle, including the cooling process, is around to 10 seconds.

## Specimen charging system

Cooling chamber (optional)

Specimen feeding system

#### Automatic specimen feeding system and cooling chamber

Model		ACS60 + AFS100	ACS100 + AFS100	ACS180 + AFS180		
Temperature range	°C	From environmental to -60	From environmental to -100	From environmental to -180		
Cooling method	-	Double-stage compressor	Liquid Nitrogen	Liquid Nitrogen		
Temperature control accuracy	0°	±1				
Temperature fluctuation	0°	±2				
Specimen accomodation	pc	40	40	12		
Specimen feeding time	S	3				
Specimen dimensions		55x10x10				
	mm	55x10x7.5				
		55x10x5				
Air supply	MPa	0.4-0.7				
Flow rate	l/min	≥30				