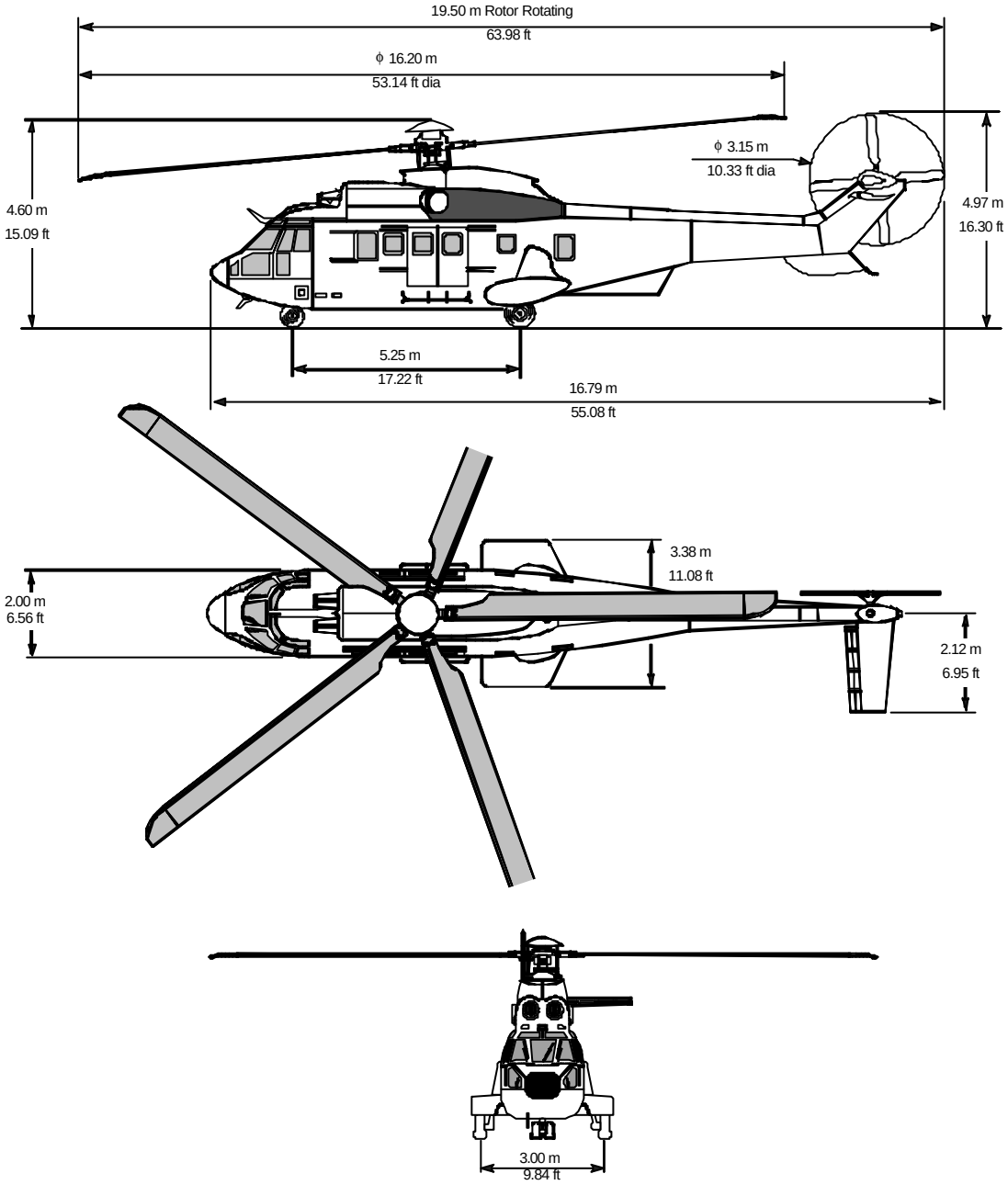
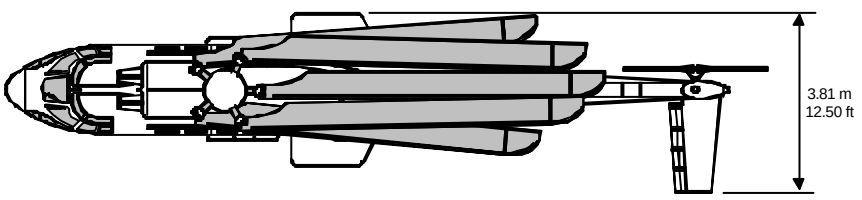
Main dimensions

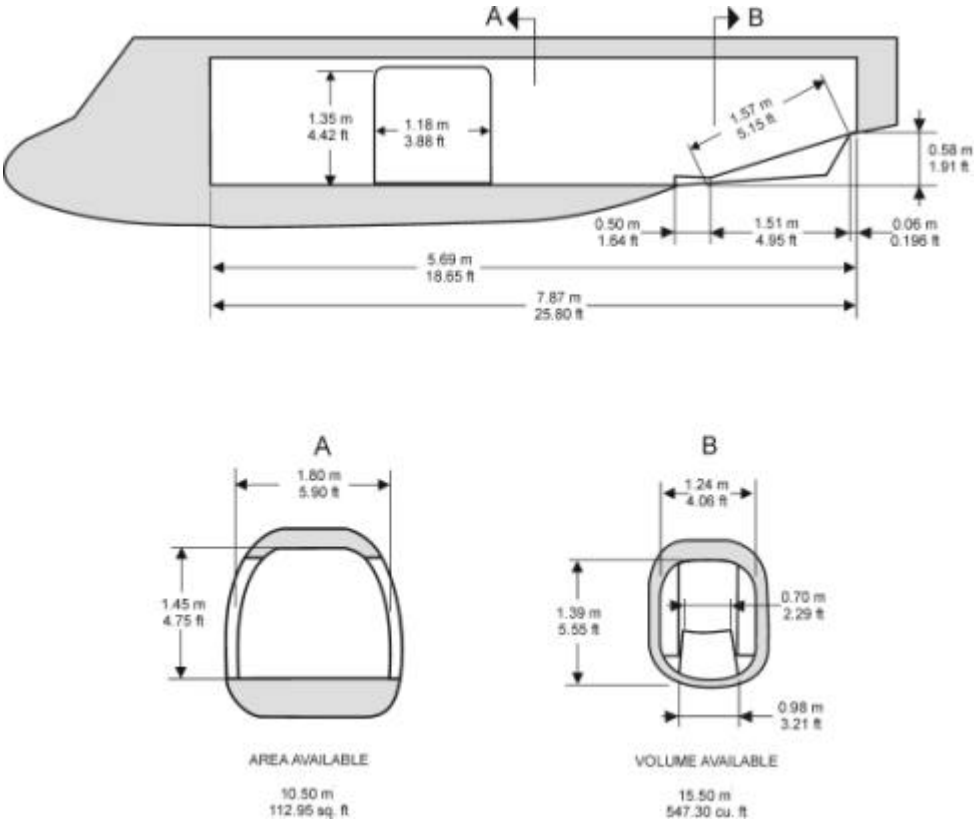


Dimensions with blades folded

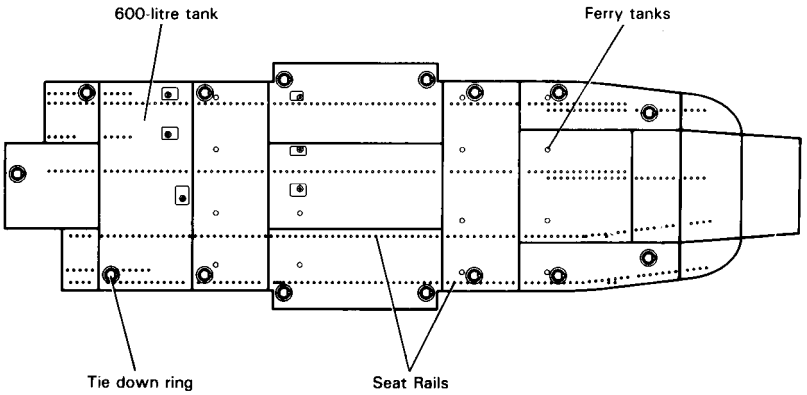


Dimensions of compartments and accesses

■ Cabin main dimensions



■ Cabin floor



General characteristics

Lay-out

- Minimum crew
  - VFR : 1 pilot
  - IFR : 2 pilots
- Troop transport (in addition to the crew)
  - 1 chief of stick + 28 troop seats
- VIP Transport (in addition to the crew) :
  - 8 to 12 passengers
- Casualty evacuation (in addition to the crew) :
  - Up to 12 stretchers + 4 seats
- Combat SAR

Weights

	kg	lb
Empty weight, standard aircraft (including engine oil and unusable fuel)	5,330	11,750
Useful load	5,670	12,500
Maximum gross-weight	11,000	24,250
Maximum cargo-sling load	5,000	11,020
Maximum operational weight in external load configuration	11,200	24,700

Note : Empty weight accuracy : within ± 2.5 %

Power plant

2 TURBOMECA MAKILA 1A4 turbine engines, with blade shedding technology and redundant FADEC system.

Engine ratings

Power per engine, in standard atmosphere, at sea level :

	kW	ch	shp
Maximum emergency power (OEI 30")	1,800	2,448	2,413
Intermediate emergency power (OEI 2')	1,665	2,264	2,232
Take-off power	1,566	2,129	2,100
Maximum continuous power	1,395	1,897	1,870

Fuel capacities (usable)

	litres	US gal.	kg	lb
■ Standard crashworthy self-sealing fuel tanks	1,949	514	1,538	3,390
■ Auxiliary fuel tanks (option)				
• Central crashworthy self-sealing fuel tank	308	81	243	536
• Sponson crashworthy self-sealing fuel tanks	2 x 295	2 x 78	2 x 233	2 x 513
• 1 to 5 ferrying fuel tanks	5 x 475	5 x 126	5 x 375	5 x 826

EC 725 Cougar - standard aircraft definition

GENERAL

Crashworthy design fuselage including cockpit and cabin
Composite material intermediate structure
Monocoque tail boom with prop for tail rotor protection and stabilizer
Front part of the tail boom arranged as a storage compartment
Fuselage upper part used as transmission deck
Fuselage lower part fittable with the following optional equipment :
- floatation gear
- multipurpose sponsons

Engine cowlings serving as a work platform when in the open position
High energy absorption, retractable, tricycle landing gear with trailing-arm main landing gear and castering nose wheel unit
Footsteps for climbing to the transmission deck, the cockpit and the cabin
Built-in jacking and towing points
Provisions for attaching gripping points
4 built-in attachment points for lateral external loads
Structural and electrical capabilities for axial armament
Fixed parts of armour plating
Fixed parts for multipurpose sponsons
Cable cutter
Fixed parts for 3,8 tons cargo sling
Fixed parts for hydraulic hoist
Interior paint : night blue ; exterior per customer paint scheme (glossy or dull polyurethane finish)

COCKPIT

2 pilot and copilot crashworthy seats adjustable in height and fore-and-aft, complete with safety belts and extensible shoulder harnesses
1 third crew man jump-seat with a 3 point extensible safety harness
3 sun vizors
Dual flight control
Steadying rods at pilot station
Engine digital controls
Master armament switch
Master cut-off switches
Rotor brake control
Landing gear control
Differential wheel brakes at pilot and copilot stations
2 map cases on pilot and copilot doors
1 Flight Manual
1 ash-tray
1 hand fire extinguisher
De-iced pilot and copilot windshield panes
2 hot air diffusers
3 windshield pane demisting ramps
4 adjustable ventilation outlets
Pilot and copilot windshield wipers
Windshield washer
De-iced cockpit center pane with wiper
2 jettisonable doors with door-stops
5 28 V receptacles
HUD structural provisions
Access to cabin with screen off curtain

INSTRUMENTS

4 multifunction 6" x 8" landscape LCD displays
2 display control panels
1 Redundant Vehicle Monitoring System, with one redundant aircraft management computer and two 4" x 5" LCD displays
2 autopilot control boxes
1 airspeed indicator
1 altimeter
2 stop watches
1 self-contained gyro-horizon
1 rotor and free turbines 1 and 2 triple tachometer
1 warning panel
1 fuel circuit control and monitoring panel with 2 fuel contents displays
1 AC/DC control panel
1 engine starting panel
1 landing gear position control and monitoring panel
2 heated pitot static and total heads
1 ventilation/heating system control and monitoring panel
1 Intercommunication system - 4 control boxes
1 Radio management system, with 2 CDU.

CABIN

Re-inforced floor fitted with 15 cargo tie-down rings, capable of accommodating various types of seat and cabin additional fuel tanks available on option
- 2 sliding double doors and front sliding windows
- 12 jettisonable windows (including 4 on the sliding doors)
- 1 rear step door
- 1 hand fire-extinguisher

Upholstery (dark padded cloth)

Heating and ventilation (upper outlets adjustable for direction and flow, plus 8 bottom adjustable for flow)

Floor hatch for cargo sling pole

Fixed parts for 28 troop seat installation

Structural provisions for casualty installation

POWER PLANT

- 2 TURBOMECA MAKILA 1 A4 1800 kW (2448 ch - 2413 shp) maximum emergency power, blade shedding, turbines engines in two separate groups with own starting, feeding, lubricating, and cooling systems
- 2 redundant full digital FADEC including a O.E.I. training mode
- 1 fuel system of 1949 litres (514 US gal.) usable capacity comprising 6 self sealing and crashworthy tanks, arranged in 2 groups, 4 booster pumps, 1 transfer pump and a low/high fuel warning system. The pipes are of the crashworthy type

Provisions for ferrying, central auxiliary and external tanks

Pressure refuelling installation for standard sponsons
- 2 engine bay fire-detection systems
- 1 two-cylinder selective fire-extinguishing system
- 2 chip detectors

Engine air intakes protected against icing by grids and heating mats on the air intake stub frames
- 1 engine flushing device without removal of cowlings
- 1 cycle counting system

Fixed parts for infra-red suppressors

TRANSMISSION SYSTEM

- 1 main gearbox on flexible mountings with 3 chip detectors one of which with fuse burner, oil sight gauge, oil temperature and pressure sensors and torquemeter pick-ups, 2 lubrication pumps and independant circuits, and one dry run emergency cooling device.
- 1 intermediate gearbox with magnetic plug, oil sight gauge and temperature sensor
- 1 tail gearbox with magnetic plug, oil sight gauge and temperature sensor
- 1 main gearbox oil cooling system
- 1 rotor brake
- 2 MGB bay fire detection circuits

ROTOR AND FLYING CONTROLS

- 1 articulated main rotor with 5 composite-material blades equipped with gust and droop stops
- 1 anti-torque rotor with 4 composite-material blades
- 1 flying control system, fitted with 4 dual-body servo-units (3 on the cyclic and collective pitch channels and 1 on the anti-torque rotor pitch control channel) with 2 chamber per body

Capability for main rotor blade folding system
- 1 dual/duplex digital autopilot associated with 2 flight data computers and back-up capabilities
- 1 stand-by vertical gyro unit (SFIM GV 76)
- 1 THOMSON CNI AHV16 radio altimeter

ELECTRICAL INSTALLATION

2 30/40 kVA, 115/200 V, 400 Hz alternators
1 43 amp.-hr cadmium-nickel battery
2 transformer-rectifiers of tbd Amps each
1 4 amp.-hr stand-by battery
1 26 V, 400Hz transformer
1 cockpit lighting system including :
- green pedestal and overhead panel integrated lighting
- indirect green instrument panel lighting by electroluminescent plates (NVG compatible)
- general lighting by green neon (NVG compatible)
- 2 white or green inspection lamps (NVG compatible green light)
- 2 green light spots to read maps
- 1 white light extension light

1 cabin lighting system equipped with white neons
1 cabin lighting system equipped with 2 green neons above the doors (compatible with NVG)
6 receptacles for ancilliaries (28 V, 15 amp.)
1 receptacle for ancilliaries (28 V, 25 amp.)
2 external power receptacles (AC and DC)
1 600 W landing light with variable intensity
1 infra-red landing light with variable intensity
3 position lights
2 anti-collision lights (one of which is NVG compatible)
4 NVG compatible formation lights

HYDRAULIC GENERATION

2 independent hydraulic systems :
- the LH system feeds one of the servo-unit bodies, the autopilot, the landing gear control, the rotor brake and wheel brakes
- the RH system feeds the other body of the servo-units

Hydraulic ground couplings

1 DC auxiliary electropump on stand-by for the LH system and for supplying sufficient hydraulic pressure for movement of the controls on the ground before starting in high winds
1 stand-by electropump for complete lowering of the landing gear
Provisions for hydro-electric group installation

AIRBORNE KIT *

2 pitot head covers
1 engine air-intake grid protection cover
2 engine tail-pipe blanks
4 mooring rings
2 rough-weather mooring fittings (included on the aircraft)

1 access ladder
1 data case
3 jacking ball-joints
Main blade tie-down
Fuel bleed line
1 stowing bar for the airborne kit

* (weight not included in standard aircraft empty weight)

Mission equipment

		Weight supplement			
		Complete installation		Only fixed parts	
General items of equipment		**kg**	**lb**	**kg**	**lb**
05-041	• ROSEMOUNT icing severity indicator	3.0	6.6	-	-
05-052	• Cockpit green tinted upper panes	0.0	0.0	-	-
05-054	• Cabin green tinted windows	2.5	5.5	-	-
05-055	• 2 observation bubble windows	1.0	2.2	-	-
05-056	• Cabin metallized windows	6.2	13.7	-	-
05-060	• Cockpit and cabin air conditioning system	125.0	275.6	-	-
05-066	• Crashworthy self sealing central fuel tank	34.4	75.8	-	-
05-074	• Third crew man travelling and sweveling crashworthy seat	29.4	64.8	-	-
05-081	• Auxiliary power unit	105.0	231.5	29.6	65.3
05-082	• Hydro electric group	17.0	37.5	-	-
Instruments and flying aids					
06-010	• Automatic transition and hover modes	3.7	8.2	0.3	0.7
06-020	• Fuel flowmeter	2.6	5.7	-	-
06-060	• Bendix 1500B search radar	48.0	105.8	-	-
06-065	• Radar operator console (on request)	TBD	TBD	TBD	TBD
06-102	• Canadian Marconi CMA 3000 FMS with doppler radar and SAR modes	34.9	76.9		
06-103	• Canadian Marconi CMA 3012 GPS	4.9	10.8	-	-
06-104	• Canadian Marconi CMA 3000 FMS	12.8	28.2		

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

	Specific mission equipment	Weight supplement			
		Complete installation		Only fixed parts	
		kg	lb	kg	lb
07-011	• Multipurpose sponsons	56.4	124.3	-	-
07-020	• Emergency floatation gear	172.5	380.3	23.1	50.9
07-023	• External luggage hold for multipurpose sponsons	12.5	27.6	-	-
07-024	• Aerazur 551 Life-raft	43.0	94.8		
07-025	• Crashworthy self sealing sponsons fuel tanks with pressure-refuelling	83.9	185.0	-	-
07-027	• 7 to ten Life-raft 610 type	22.0	48.5		
07-030	• Multipurpose engine air intakes	71.0	156.5	-	-
07-031	• Main rotor blades re-inforced sand erosion protection strips	0.3	0.7	-	-
07-032	• Tail rotor blades re-inforced sand erosion protection strips	0.1	0.2	-	-
07-042	• Installation for flight in extreme cold weather	56.1	123.6	22.5	49.6
07-043	• Skis	165.0	313.0	7.8	17.2
07-044	• Kit for flight in limited icing conditions	2.0	4.4	-	-
07-054	• Ferrying fuel tanks 1 to 5 x 475 liters (1 to 5 x 126 US gal.)	22.5	49.6	-	-
07-055	• Air-to-air refuelling system	161.2	355.4	7.0	15.4
07-057	• Electrical back-up hoist	23.2	51.1	8.2	18.1
07-062	• Fixed hoist with variable speed 75 meter cable, 272 kg (246 ft, 600 lb)	54.7	120.6	6.9	15.2
07-063	• External mirrors	6.5	14.3	0.5	1.1
07-066	• Drip tub	7.0	15.4	-	-
07-069	• Casually carrying installation for 12 stretchers (without stretchers and seats)	22.6	49.8	-	-
07-071	• Stretcher (NATO type)	8.3	18.3	-	-
07-072	• Self Contained Medical Unit	243.0	535.7	2.0	4.4
07-076	• TRANSACO TRS 902 stretcher	10.0	22.0	-	-
07-081	• SPECTROLAB SX16 search light	28.9	63.7	4.9	10.8

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

		Weight supplement			
		Complete installation		Only fixed parts	
	Specific mission equipment (continued)	**kg**	**lb**	**kg**	**lb**
07-092	• Hailer installation	40.9	90.2	15.1	33.3
07-152	• EUROARMS EC 225/725 (1)	51.0	100.1	19.0	41.9
07-158	• FLIR (on request)	TBD	TBD	TBD	TBD
07-165	• Cabin console for FLIR installation (on request)	TBD	TBD	TBD	TBD
07-190	• Cargo sling with dynamometer (5 tons) (2)	32.6	71.9	4.42	9.7
07-191	• Cargo sling with dynamometer (3,8 tons) (3)	37.9	83.6	10.2	22.5
07-205	• 990 liters rear jettisonable fuel tank	116.5	256.8	17.4	38.4
07-330	• Hover in flight refuelling (HIFR)	10.0	22.0	-	-
	Operational protections				
08-010	• Armour plating for pilot and copilot doors and crashworthy seats	72.3	159.4	0.3	0.7
08-020	• Infrared suppressor, removable parts	100.3	221.1	-	-
	Interior cabin layout				
09-010	• 28 troop seat installation	87.0	191.8	-	-
09-011	• 16 crashworthy troop seat installation	134.8	297.2	2.0	4.4
09-020	• Comfort upholstery with improved sound proofing	78.0	172.0	-	-
09-021	• 19-comfort seat installation	192.7	424.8	-	-
09-022	• 24 comfort seat installation	220.1	485.2	-	-
09-027	• Luggage compartment	16.3	35.9	-	-
09-030	• "De luxe" upholstery with enhanced sound proofing	365.0	804.7	-	-
09-032	• Special LH door with built-in steps	15.0	33.1	-	-
09-033	• Special RH double door	7.0	15.4	-	-
09-060	• 8 + 1 seat VIP installation	650.0	1433.0	-	-
09-061	• 12 + 1seat VIP installation	554.0	1221.3	-	-

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

(1) : A ground station has to be provided

(2) : Requires removal of the central auxiliary fuel tank if it has been selected by the user

(3) : Compatible with the central fuel tank

		Weight supplement			
		Complete installation		Only fixed parts	
Ground handling and picketing					
10-010	• Main rotor blade folding system	48.7	107.4	3.3	7.3
10-040	• Main landing gear kneeling system	4.5	9.9	-	-
Military installation					
11-015	• 7.62 mm MAG FN machine gun in forward right and left windows	74.0	163.1	4.2	9.3
11-030	• Axial armament common components	143.0	315.3	6.8	15.0
11-032	• 2 x 19 – 2.75 ‘’ rocket launchers	154.0	339.5	-	-
11-033	• 2 x 20 mm pode-mounted cannon	228.0	502.6	4.0	8.8
11-039	• EWR-99 FRUIT RWR (Dassault Electronique)	10.9	24.0	6.6	14.6
11-046	• ALKAN ELIPS multipurpose chaffs/flares dispenser	29.2	64.4	26.1	57.5

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

Radio-communication and radio-navigation equipment

A/ Military uses

1/ Recommended minimum items of equipment

Designation	Solution 1	Solution 2	Solution 3
VHF/AM	-	COLLINS VHF 422 B	COLLINS VHF 422 B
VHF/AM-FM TACTIQUE	-	-	COLLINS VHF 422B
V-UHF/AM-FM TACTICAL-FM MARITIME No 1	COLLINS ARC 210	COLLINS ARC 210	-
V-UHF/AM-FM TACTICAL-FM MARITIME No 2	COLLINS ARC 210	-	-
UHF/AM	-	-	MAGNAVOX ARC 164 or CHELTON 805-1
A.D.F.	COLLINS ADF 462	COLLINS ADF 462	COLLINS ADF 462
Weight supplement	**27.9 kg**	**22.5 kg**	**23.7 kg**

2/ Headsets

Designation	Solution 1	kg	Solution 2	kg	Solution 3	kg
HEADSETS	SILEC 4449-1 or ELNO 247 SP 442	0.5 0.6	SILEC 4449-1 or ELNO 247 SP 442	0.5 0.6	SILEC 4449-1 or ELNO 247 SP 442	0.5 0.6
HELMETS	GUENEAU-SILEC 459	1.3	GUENEAU-SILEC 459	1.3	GUENEAU-SILEC 459	1.3

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

Radio-communication and radio-navigation equipment

A/ Military uses (continued)

3/ Additional equipment depending on operational needs

Designation	Solution 1	kg	Solution 2	kg	Solution 3	kg
VHF/AM HOMER	CHELTON SYSTEM 7	5.4	CHELTON SYSTEM 7	5.4	CHELTON SYSTEM 7	5.4
VHF/FM TACTICAL HOMER (30-88 MHz)	CHELTON SYSTEM 7	2.7	CHELTON SYSTEM 7	2.7	CHELTON SYSTEM 7	2.7
UHF HOMER	CHELTON SYSTEM 7	5.4	CHELTON SYSTEM 7	5.4	CHELTON SYSTEM 7	5.4
SAR HOMER	CHELTON SYSTEM 7	5.5	CHELTON SYSTEM 7	5.5	CHELTON SYSTEM 7	5.5
DIRECTION FINDING (30-400 MHz)	CHELTON DF 931	8.0	CHELTON DF 931	8.0	CHELTON DF 931	8.0
PERSONAL LOCATOR SYSTEM	CUBIC AN/ARS 6	14.8	CUBIC AN/ARS 6	14.8	CUBIC AN/ARS 6	14.8
VOR/ILS	COLLINS VIR 432	10.4	COLLINS VIR 432	10.4	COLLINS VIR 432	10.4
HF/SSB	COLLINS HF 9100	23.1	COLLINS HF 9100	23.1	COLLINS HF 9100	23.1
IFF	THOMSON TSC 2050	10.8	THOMSON TSC 2050	10.8	THOMSON TSC 2050	10.8
D.M.E. or TACAN	COLLINS or COLLINS ARN 153	8.2 11.5	COLLINS or COLLINS ARN 153	8.2 11.5	COLLINS or COLLINS ARN 153	8.2 11.5
EMERGENCY LOCATOR TRANSMITTER	JOLLIET JE 2 NG	2.1	JOLLIET JE 2 NG	2.1	JOLLIET JE 2 NG	2.1
EMERGENCY LOCATOR TRANSMITTER (3 frequencies)	SOCATA ELT 96-406	3.1	SOCATA ELT 96-406	3.1	SOCATA ELT 96-406	3.1
I.C.S. Passenger interphone	TEAM BA 1920	1.6	TEAM BA 1920	1.6	TEAM BA 1920	1.6
GPS (1) (2) (c/w IFDS)	TRIMBLE TNL 2101 I/O Approach +	3.3	TRIMBLE TNL 2101 I/O Approach +	3.3	TRIMBLE TNL 2101 I/O Approach +	3.3
RADAR	BENDIX 1400 C	24.0	BENDIX 1400 C	24.0	BENDIX 1400 C	24.0
SELF CONTAINED NAVIGATION WITH OPTION GPS	SEXTANT NADIR MK2 COMPUTER + RADAR DASSAULT ELECTRONIQUE DOPPLER c/w IFDS + 1 data loader + 1 data transfer module (3)					39.0
	GPS SEXTANT NSS 100-S1					4.0

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

Otherwise stated front faces of radio communication and radio navigation control boxes is treated for night vision goggle use.

(1) NVG incompatible

(2) The customer must take out a subscription to the data base in order to use the GPS after having taken delivery of the helicopter
(3) In order to load the data in the Nadir MK2, a Mission Planning System (MPS) is recommended. This system can be shared between several helicopters operated from the same base

Radio-communication and radio-navigation equipment

B/ Navy uses

1/ Minimum items of equipment (the supplies of each installation are indissociable)

Designation	Solution 1	Solution 2	Solution 3
VHF/AM	-	COLLINS VHF 422 B	-
VHF/AM-FM TACTICAL FM MARITIMENo 1	COLLINS ARC 210	COLLINS ARC 210	COLLINS ARC 210
V-UHF/AM-FM TACTICAL-FM MARITIME No 2	COLLINS ARC 210	-	-
UHF/AM	-	-	MAGNAVOX ARC 164 or CHELTON 805-1
A.D.F.	COLLINS ADF 462	COLLINS ADF 462	COLLINS ADF 462
2 nd RADIO ALTIMETER	THOMSON CNI AHV16	THOMSON CNI AHV16	THOMSON CNI AHV16
Weight supplement	**33.0 kg**	**27.6 kg**	**29.1 kg**

2/ Headsets

Designation	Solution 1	kg	Solution 2	kg	Solution 3	kg
HEADSETS	SILEC 4449-1 or ELNO 247 SP 442	0.5 0.6	SILEC 4449-1 or ELNO 247 SP 442	0.5 0.6	SILEC 4449-1 or ELNO 247 SP 442	0.5 0.6
HELMETS	GUENEAU-SILEC 459	1.3	GUENEAU-SILEC 459	1.3	GUENEAU-SILEC 459	1.3

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

Radio-communication and radio-navigation equipment

B/ Navy uses (continued)

3/ Additional equipment depending on operational needs

Designation	Solution 1	kg	Solution 2	kg	Solution 3	kg
HOMER (156.8 MHz)	CHELTON SYSTEM 7 and two frequency receivers	5.4	CHELTON SYSTEM 7 and two frequency receivers	5.4	CHELTON SYSTEM 7 and two frequency receivers	5.4
HOMER (121.5 MHz)	CHELTON SYSTEM 7 and two frequency receivers	5.4	CHELTON SYSTEM 7 and two frequency receivers	5.4	CHELTON SYSTEM 7 and two frequency receivers	5.4
HOMER (243 MHz)	CHELTON SYSTEM 7 and two frequency receivers	5.4	CHELTON SYSTEM 7 and two frequency receivers	5.4	CHELTON SYSTEM 7 and two frequency receivers	5.4
SAR HOMER	CHELTON SYSTEM 7	5.5	CHELTON SYSTEM 7	5.5	CHELTON SYSTEM 7	5.5
DIRECTION FINDING (30-400 MHz)	CHELTON DF 931	8.0	CHELTON DF 931	8.0	CHELTON DF 931	8.0
PERSONAL LOCATOR SYSTEM	CUBIC AN/ARS 6	14.8	CUBIC AN/ARS 6	14.8	CUBIC AN/ARS 6	14.8
VOR/ILS	COLLINS VIR 432	10.4	COLLINS VIR 432	10.4	COLLINS VIR 432	10.4
HF/SSB	COLLINS HF 9100	23.1	COLLINS HF 9100	23.1	COLLINS HF 9100	23.1
IFF	THOMSON TSC 2050	10.8	THOMSON TSC 2050	10.8	THOMSON TSC 2050	10.8
D.M.E. or TACAN	COLLINS DME 442 or COLLINS ARN 153	8.2 11.5	COLLINS DME 442 or COLLINS ARN 153	8.2 11.5	COLLINS DME 442 or COLLINS ARN 153	8.2 11.5
EMERGENCY LOCATOR TRANSMITTER	KANAD 406 AF	2.1	KANAD 406 AF	2.1	KANAD 406 AF	2.1
I.C.S. Passenger interphone	TEAM BA 1920	1.6	TEAM BA 1920	1.6	TEAM BA 1920	1.6
GPS (1) (2) (c/w IFDS)	TRIMBLE TNL 2101 Approach +	3.3	TRIMBLE TNL 2101 Approach +	3.3	TRIMBLE TNL 2101 Approach +	3.3

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

Otherwise stated front faces of radio communication and radio navigation control boxes is treated for night vision goggle use.

(1) The customer must take out a subscription to the data base in order to use the GPS after having taken delivery of the helicopter.

Radio-communication and radio-navigation equipment

A/ Search and rescue missions

1/ Non divisible SAR package

Designation	Solution A	Solution B
AUTOMATIC TRANSITION AND HOVER MODES OF AFCS AND DISPLAY	Autopilot PA 165 SAR upper modes	Autopilot PA 165 SAR upper modes
SELF CONTAINED NAVIGATION SYSTEM	SEXTANT NADIR MK 2 computer + DASSAULT ELECTRONIQUE Doppler Radar + 1 data loader + 1 data transfer module (1)	SEXTANT NADIR MK 2 computer + DASSAULT ELECTRONIQUE Doppler Radar + 1 data loader + 1 data transfer module (1)
RADAR	BENDIX RDR 1400 C c/w IFDS display	BENDIX RDR 1500 B c/w IFDS display
Weight supplement	**64.7 kg**	**88.7 kg**

(1) In order to load the data in the Nadir Mk2, a Mission Planning System (MPS) is recommended. This system can be shared between several helicopters operated from the same base.

2/ Options

Designation	Solutions A	Solutions B	kg
Mission Planning System	Recommended option of the self-contained navigation system		
GPS = option of the self-contained navigation system	SEXTANT NSS 100 P		4.0
I.C.S. Passenger Interphone	TEAM BA 1920		1.6

Note : value of the weight breakdown is given for information and shall not be considered as contractual.

Main performance

The standard EC 725 figures presented hereafter are issued from theorical calculations and so have to be considered as **preliminary data** until the flight tests qualification is performed.

Take-off weight	kg lb	**9500** **20940**	**10000** **22050**	**10500** **23150**	**11000** **24250**

TWIN-ENGINE PERFORMANCE

Max. speed, VNE	km/h kt	324 175	324 175	305 165	305 165
Fast cruise speed	km/h kt	285 154	281 152	278 150	270 146
Recommended cruise speed	km/h kt	285 154	281 152	278 150	270 146
Fuel consumption at recommended cruise speed	kg/h lb/h	665 1466	665 1466	665 1466	665 1466
Rate-of-climb (85 kt, 2 engines at MCP)	m/s ft/mn	8.6 1690	7.7 1515	6.9 1360	6.0 1180
Maximum range at economical cruise speed (without reserve)					
• standard tanks	km nm	671 362	661 357	655 353	646 349
• standard tanks + central fuel tank	km nm	779 420	769 415	760 410	750 405
• standard tanks + sponsons fuel tanks	km nm	868 469	859 464	850 454	839 453
• standard tanks + central fuel tank + sponsons fuel tanks	km nm	975 526	965 521	955 516	943 509
• standard tanks+ central fuel tank + sponsons fuel tanks + rear fuel tank	km nm	1325 716	1311 708	1297 700	1282 692

Take-off weight	**kg** **lb**	**9500** **20944**	**10000** **22047**	**10500** **23149**	**11000** **24251**
Maximum endurance at 157 km/h (98 mph-85 kts) (without reserve)					
• standard tanks	h	3.27	3.21	3.15	3.09
• standard tanks + central fuel tank	h	3.80	3.74	3.67	3.60
• standard tanks + sponsons fuel tank	h	4.28	4.21	4.13	4.05
• standard tanks + central fuel tank + sponsons fuel tank	h	4.81	4.74	4.65	4.57
• standard tanks + central fuel tank + sponsons fuel tank + rear fuel tank	h	6.57	6.47	6.36	6.24
Hover ceiling I.G.E. at take-off power 10ft					
• ISA	m	3657	3159	2676	2208
	ft	11998	10364	8779	7244
• ISA+20	m	2749	2209	1675	1148
	ft	9019	7247	5495	3766
Hover ceiling O.G.E. at take-off power					
• ISA	m	2994	2484	2084	524
	ft	9823	8149	6837	1719
• ISA+20	m	2046	1481	919	-
	ft	6712	4859	3015	-
Service ceiling (Vz = 0.508 m/s - 100 ft/mn)	m	> 6000	5900	5460	5030
	ft	> 19685	19360	17910	16500

SINGLE-ENGINE PERFORMANCE

Rate-of-climb (85 kt, 1 engine at OEI unlimited)	m/s	3.6	2.8	2.0	1.4
	ft/mn	710	550	390	270
Service ceiling , 1 engine at OEI unlimited (Vz = 0.508 m/s - 100 ft/mn)	m	2505	1990	1490	1005
	ft	8220	6530	4890	3295

Operating limitations

The aircraft is cleared to operate within the following altitude and temperature limitations :

- Maximum altitude
  - Flight — 6,095 m - 20,000 ft (Pressure altitude)
  - Take-off and landing — 4,572 m - 15,000 ft (Density altitude)
- Maximum temperature — ISA + 35°C limited to 50°C
- Minimum temperature — -30°C (basic)
  -45°C (with optional installation)

Effect of armament on the cougar EC 725 performance

The figures given hereunder are obtained with a 8,000 kg take-off weight.
Unless otherwise specified, they are given for an armed aircraft, in zero wind at sea level, standard atmosphere.

Armament		2 GIAT pod mounted cannons	2 Brandt rocket launchers	2 Forges de Zeebruge rocket launchers
Fast cruise speed variation	km/hr mph kts	- 8.0 - 5.0 - 4.3	-16.0 - 9.9 - 8.6	- 16.0 - 9.9 - 8.6
Rate of climb variation	m/sec ft/min	- 0.2 - 29.5	- 0.3 - 49.2	- 0.3 - 49.2
Recommended cruise speed variation	km/hr mph kts	- 8.0 - 5.0 - 4.3	- 16.0 - 9.9 - 8.6	- 16.0 - 9.9 - 8.6
Hourly fuel consumption variation at recommended cruise speed	kg/hr	0	0	0

The values given hereabove are average values.

Performance charts

The **performance charts** presented hereafter **apply to an aircraft** as per the **standard definition**.

- Take-off weight in hover OGE
  on 2 engines at take-off power (AEO 5 mm) n°23

- Take-off weight in hover IGE (10 ft)
  on 2 engines at take-off power (AEO 5 mm) n°24

- Rate of climb in oblique flight
  on 2 engines at maximum continuous power (AEO unlimited)
  ISA; T.A.S. = 85 kts n°25

- Rate of climb in oblique flight
  on 2 engines at maximum continuous power (AEO unlimited)
  ISA+ 20°C; T.A.S. +85 kts n°26

- Rate of climb in oblique flight
  on 1 engine (OEI unlimited)
  ISA; T.A.S. = 85 kts n°27

- Rate of climb in oblique flight
  on 1 engine (OEI unlimited)
  ISA + 20°C; T.A.S. = 85 kts n°28

- Fast cruise speed
  on 2 engines at maximum continuous power
  Zp = O, ISA n°29

- Fast cruise speed
  on 2 engines at maximum continuous power
  Zp = O, ISA + 20°C n°30

- Hourly fuel consumption at fast cruise speed
  on 2 engines at maximum continuous power n°31

- Hourly fuel consumption at maximum continuous power SL, ISA n°32

- Hourly fuel consumption at maximum continuous power SL, ISA + 20°C n°33

- Hourly fuel consumption at maximum continuous power Zp = 5000 ft, ISA n°34

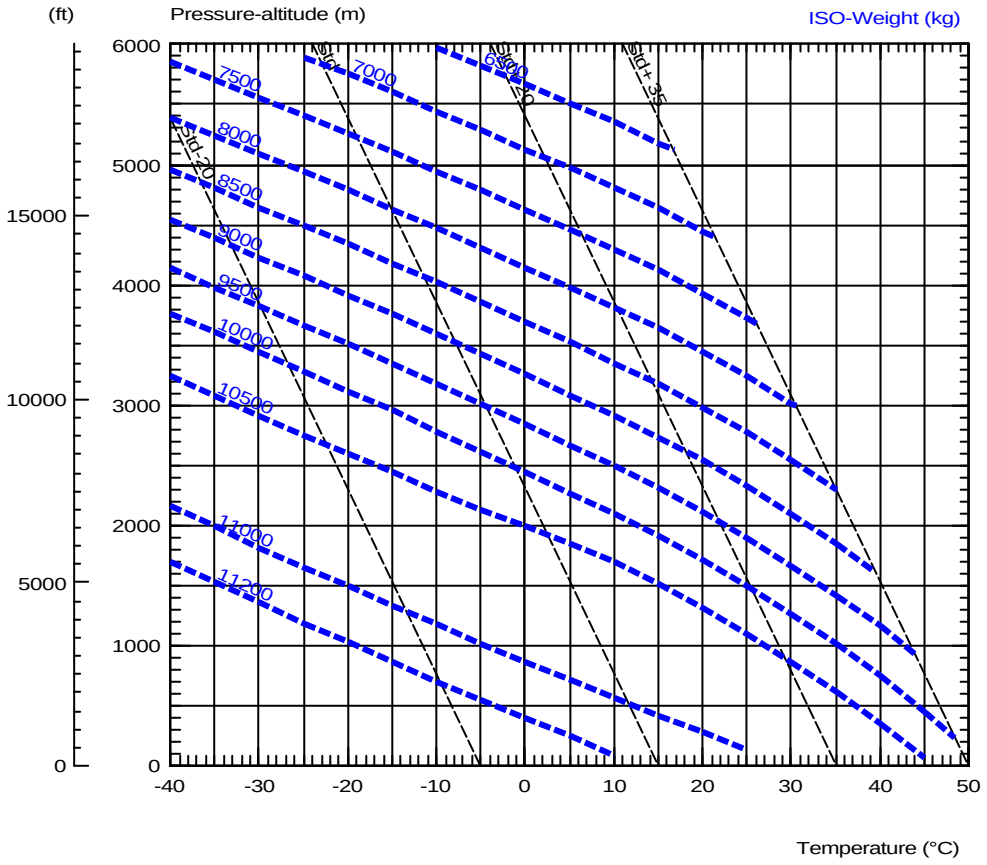
- Hourly fuel consumption at maximum continuous power Zp = 10000 ft, ISA n°35

- Hourly fuel consumption at maximum continuous power
  Zp = 5000 ft, ISA+20°C n°36

- Hourly fuel consumption at maximum continuous power
  Zp = 10000 ft, ISA+20°C n°37

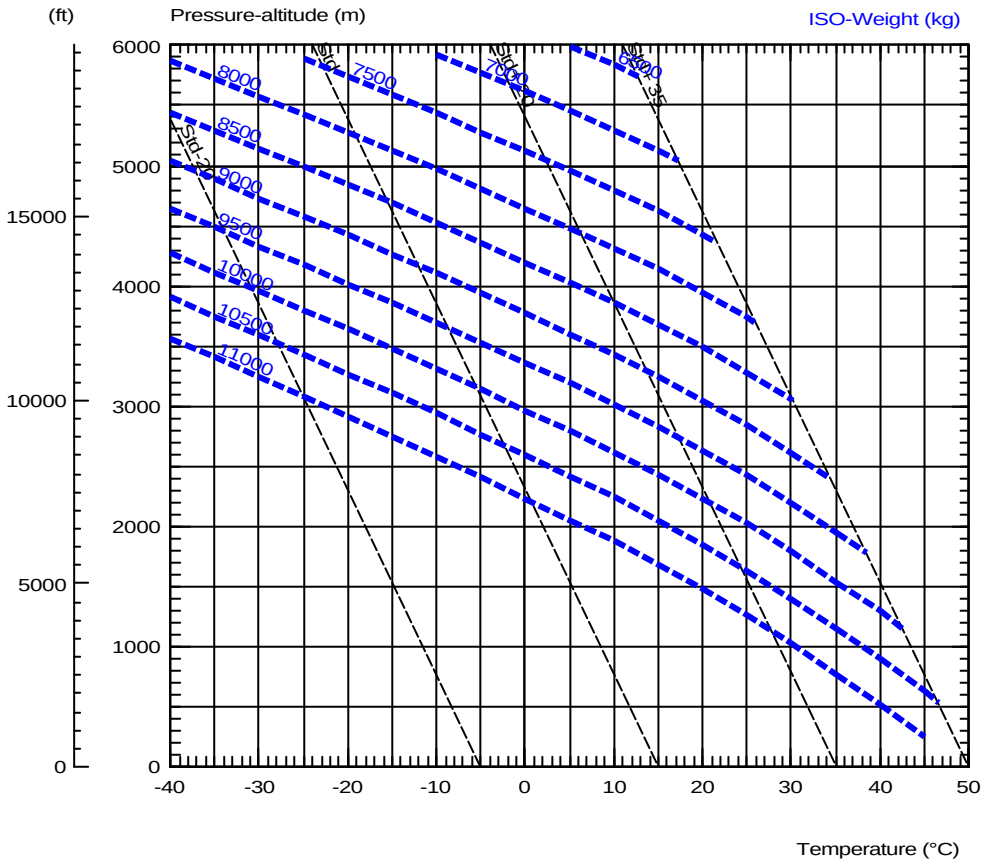
TAKE-OFF WEIGHT IN HOVER O.G.E

on 2 engines at take-off power (AEO 5 mn)



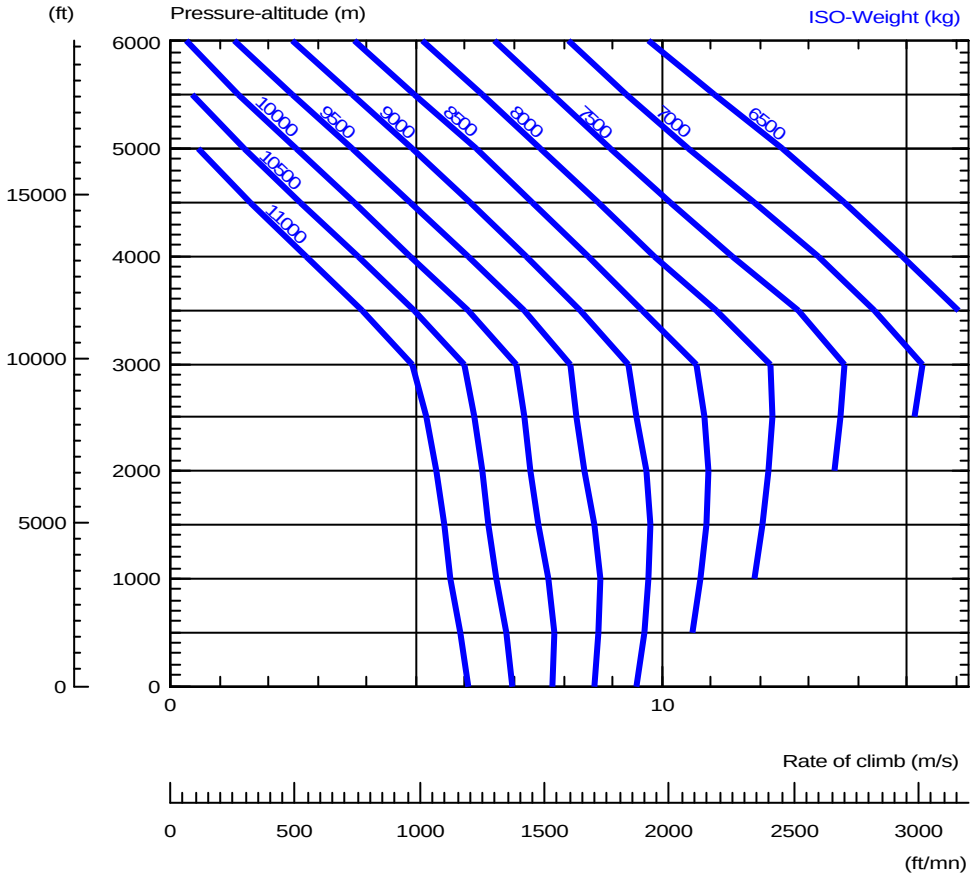
TAKE-OFF WEIGHT IN HOVER I.G.E (10ft)

on 2 engines at take-off power (AEO 5 mn)



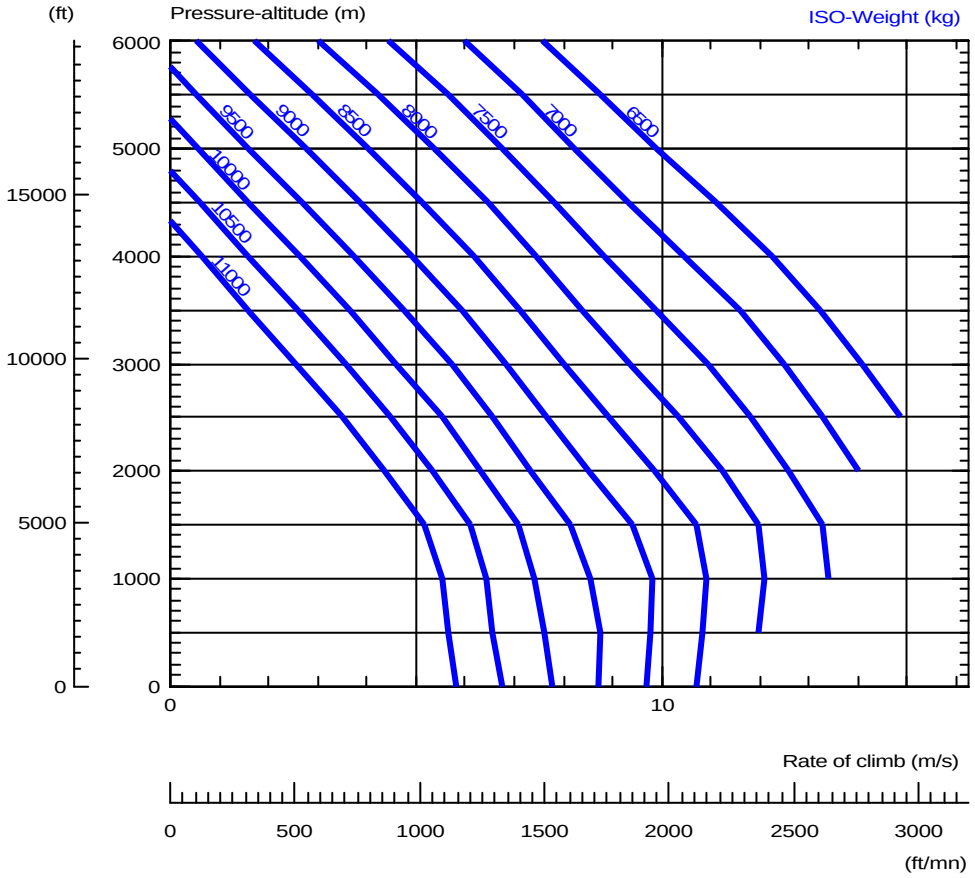
RATE OF CLIMB IN OBLIQUE FLIGHT

on 2 engines at maximum continuous power (AEO unlimited)
ISA; T.A.S = 85 kts



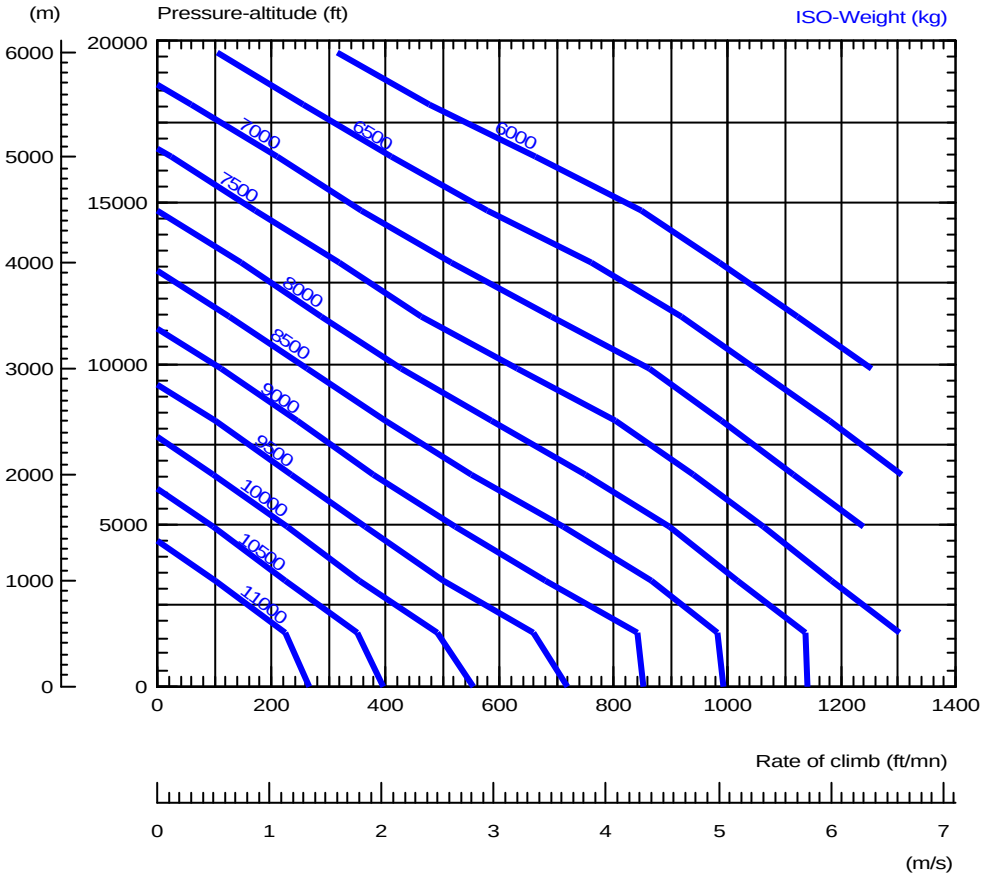
RATE OF CLIMB IN OBLIQUE FLIGHT

on 2 engines at maximum continuous power (AEO unlimited)
ISA +20; T.A.S = 85 kts



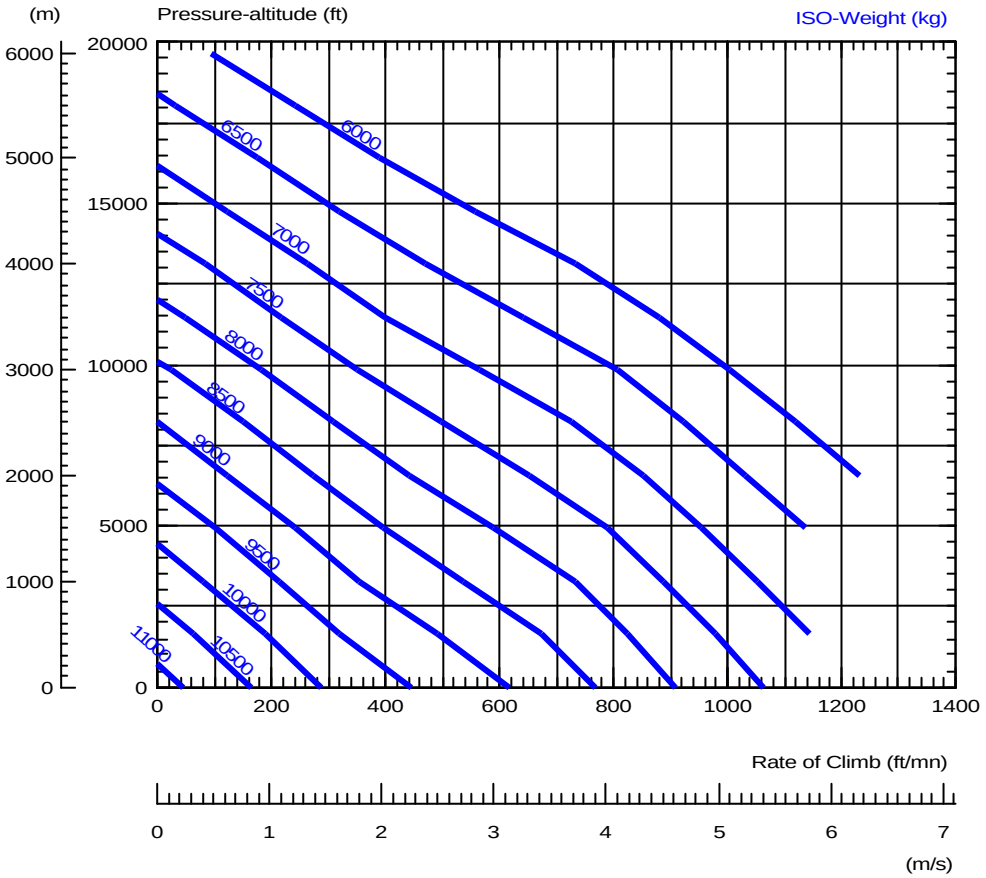
RATE OF CLIMB IN OBLIQUE FLIGHT

on 1 engine (OEI unlimited)
ISA ; T.A.S = 85 kts



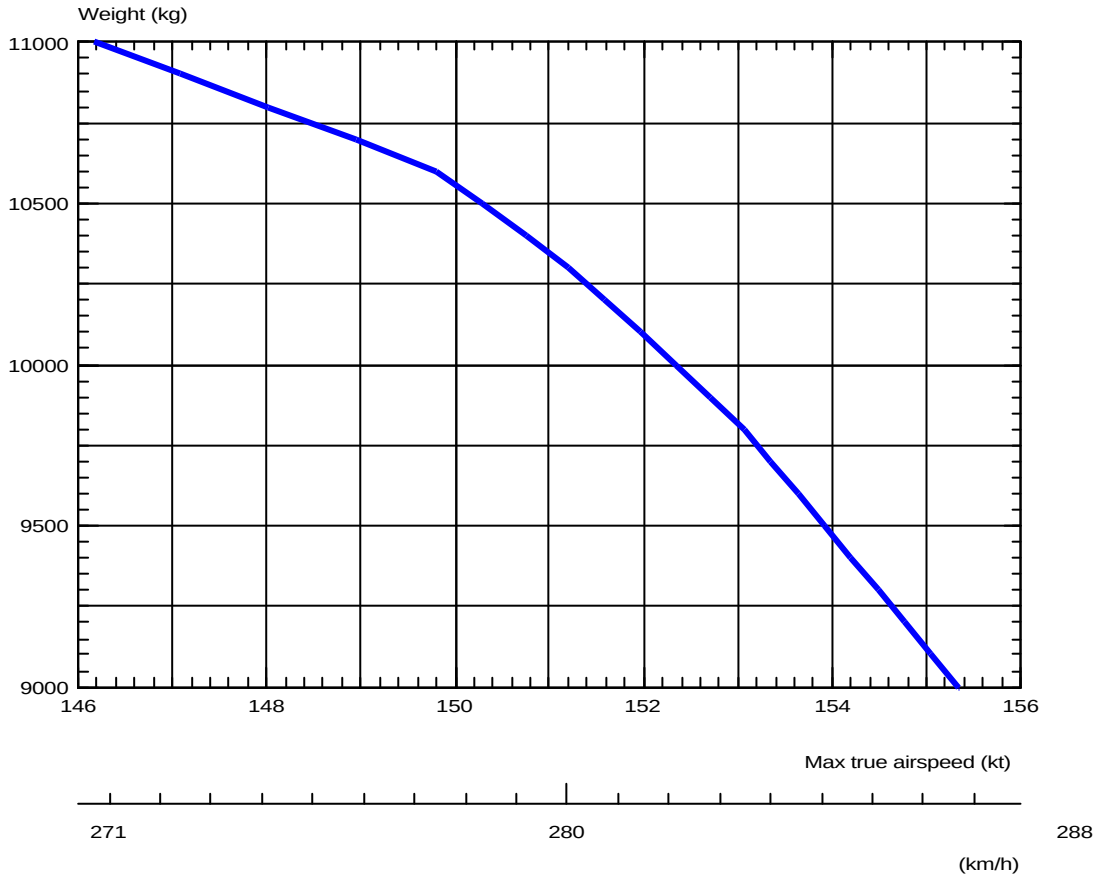
RATE OF CLIMB IN OBLIQUE FLIGHT

on 1 engine (OEI unlimited)
ISA+20 ; T.A.S = 85 kts



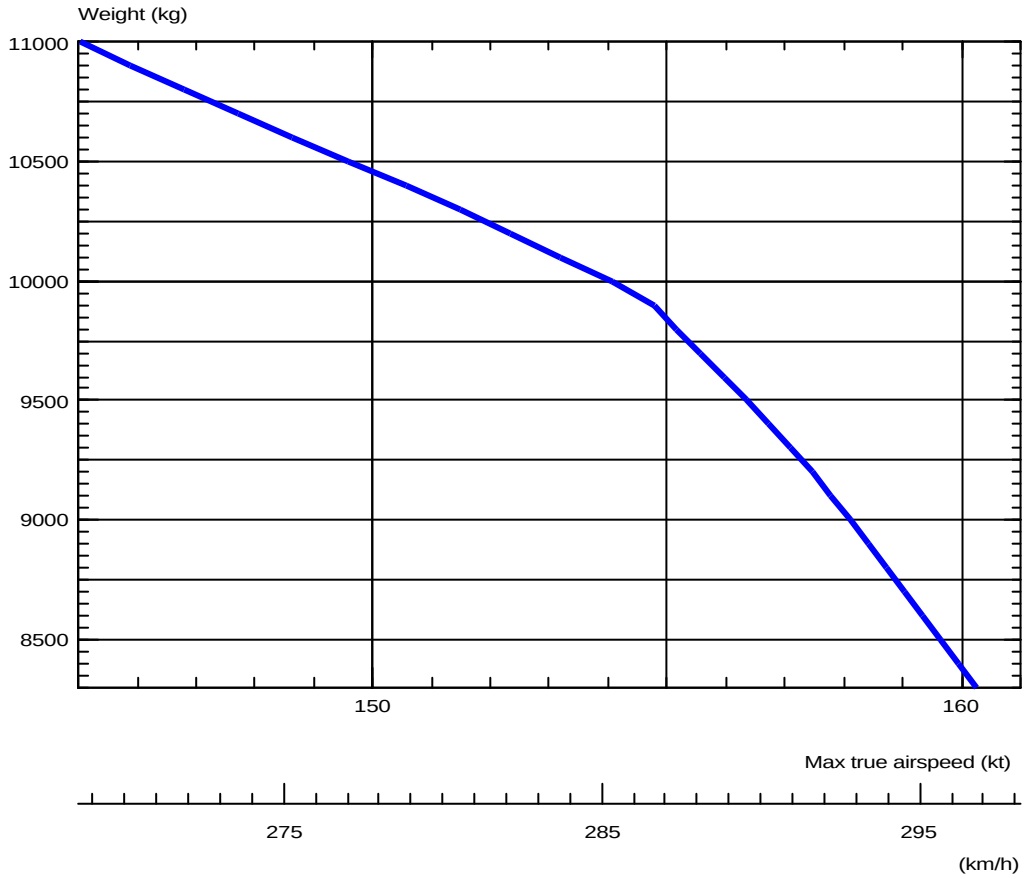
FAST CRUISE SPEED

on 2 engines at maximum continuous power
Zp = 0, ISA



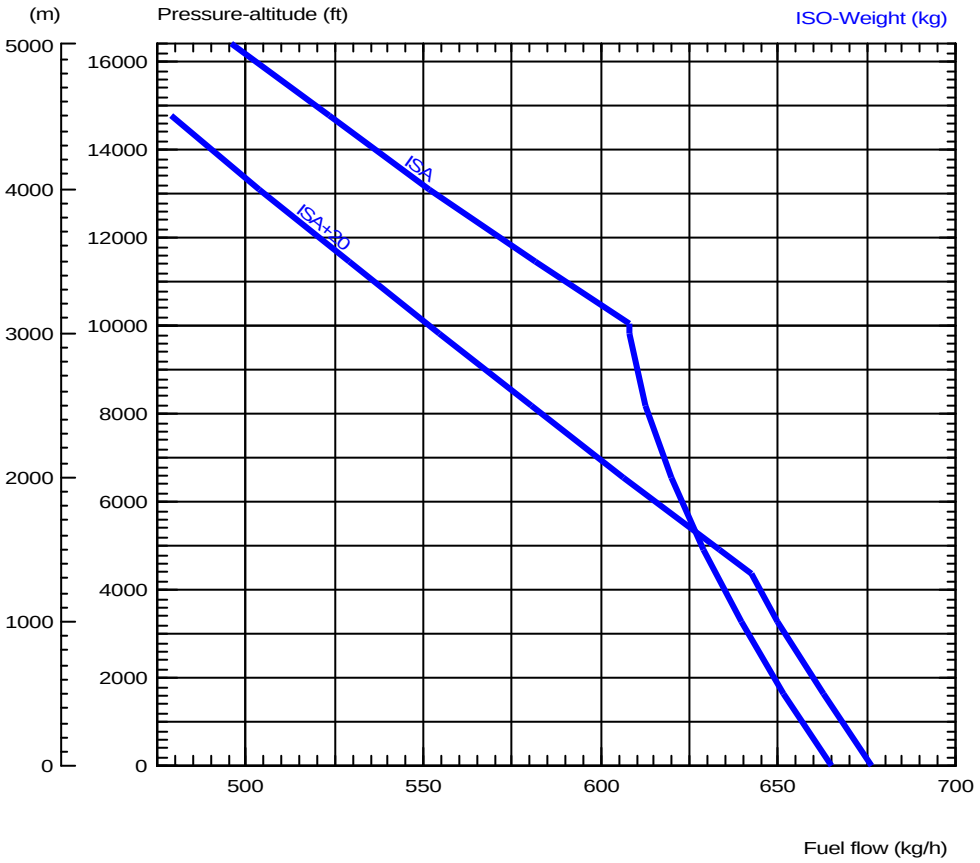
FAST CRUISE SPEED

on 2 engines at maximum continuous power
Zp = 0, ISA + 20



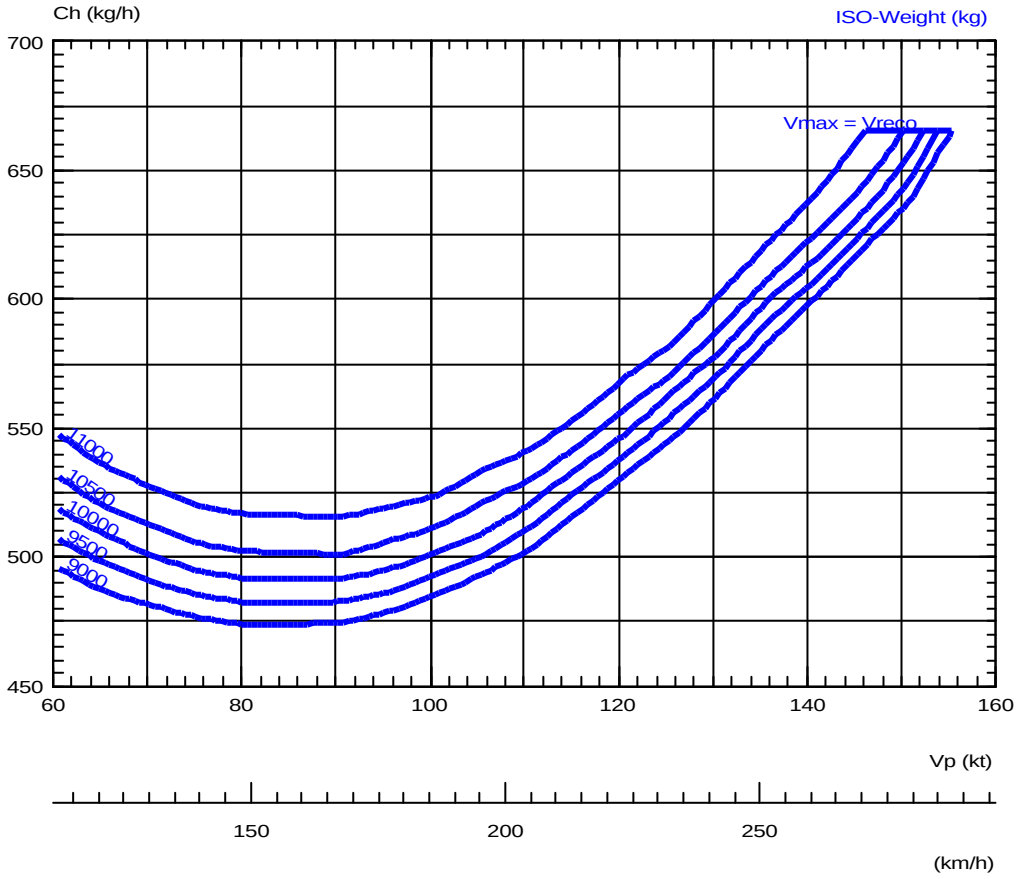
HOURLY FUEL CONSUMPTION AT FAST CRUISE SPEED

on 2 engines at maximum continuous power



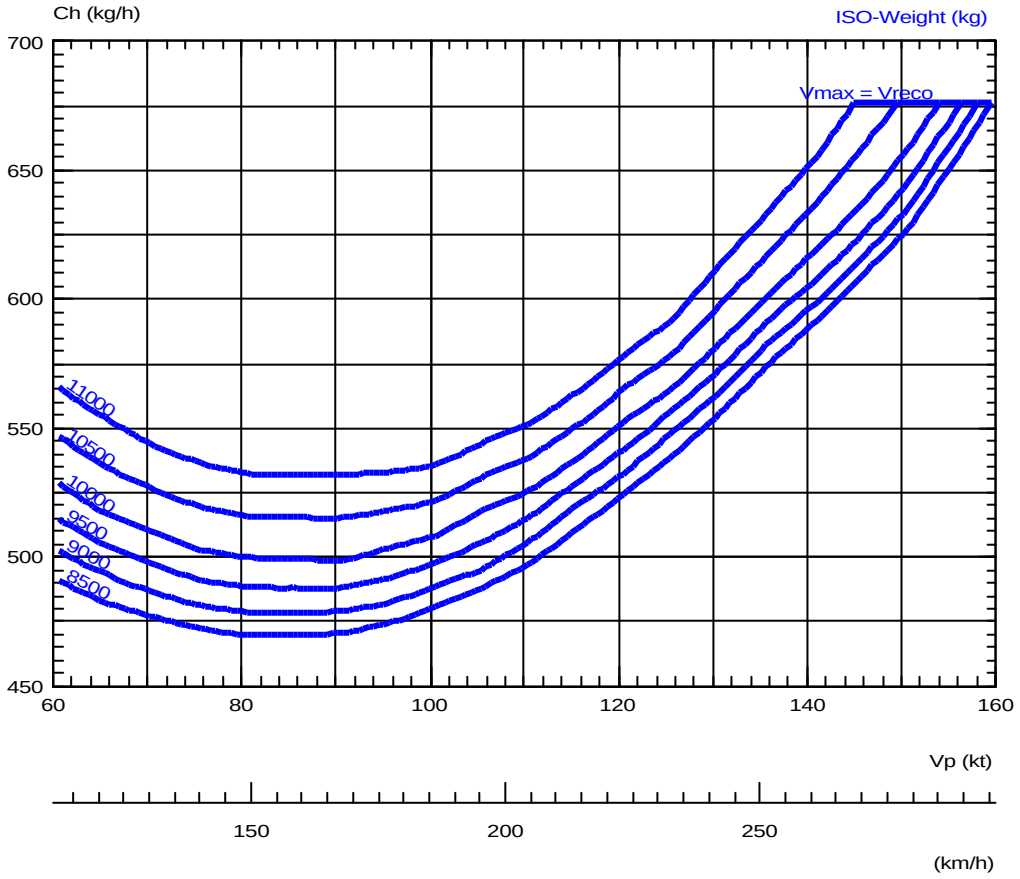
HOURLY FUEL CONSUMPTION

at maximum continuous power
Sea Level, ISA



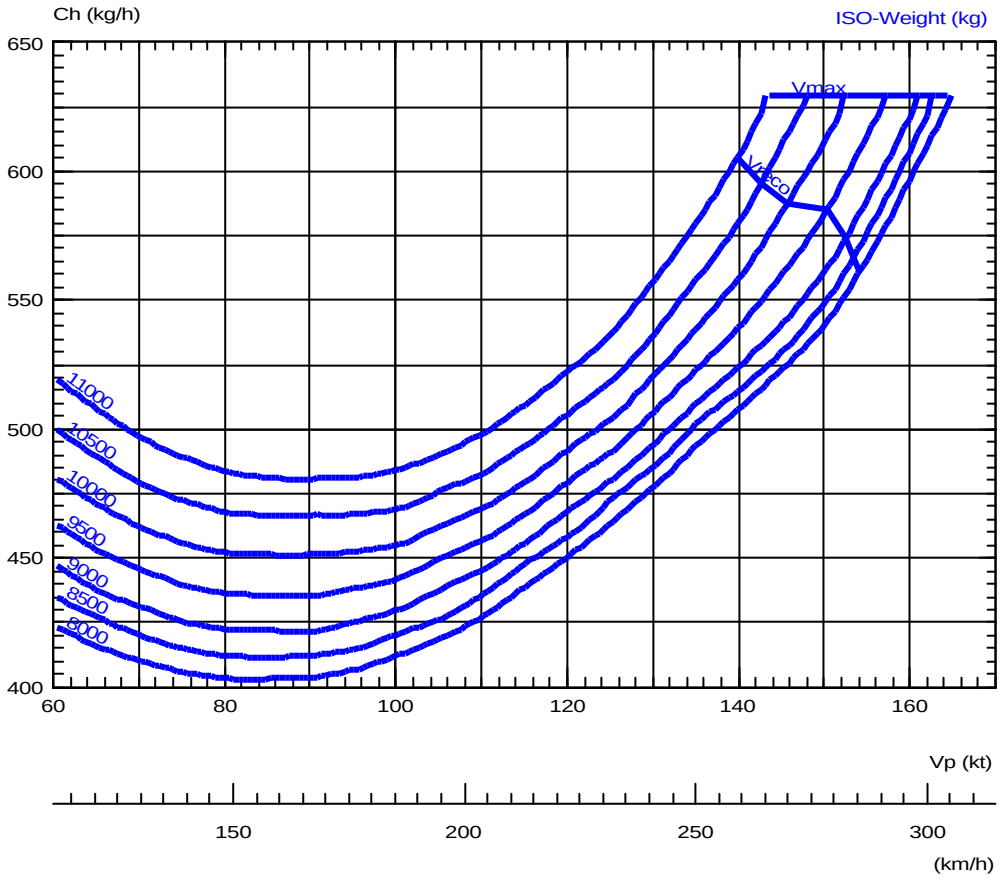
HOURLY FUEL CONSUMPTION

at maximum continuous power
Sea Level, ISA+20°C



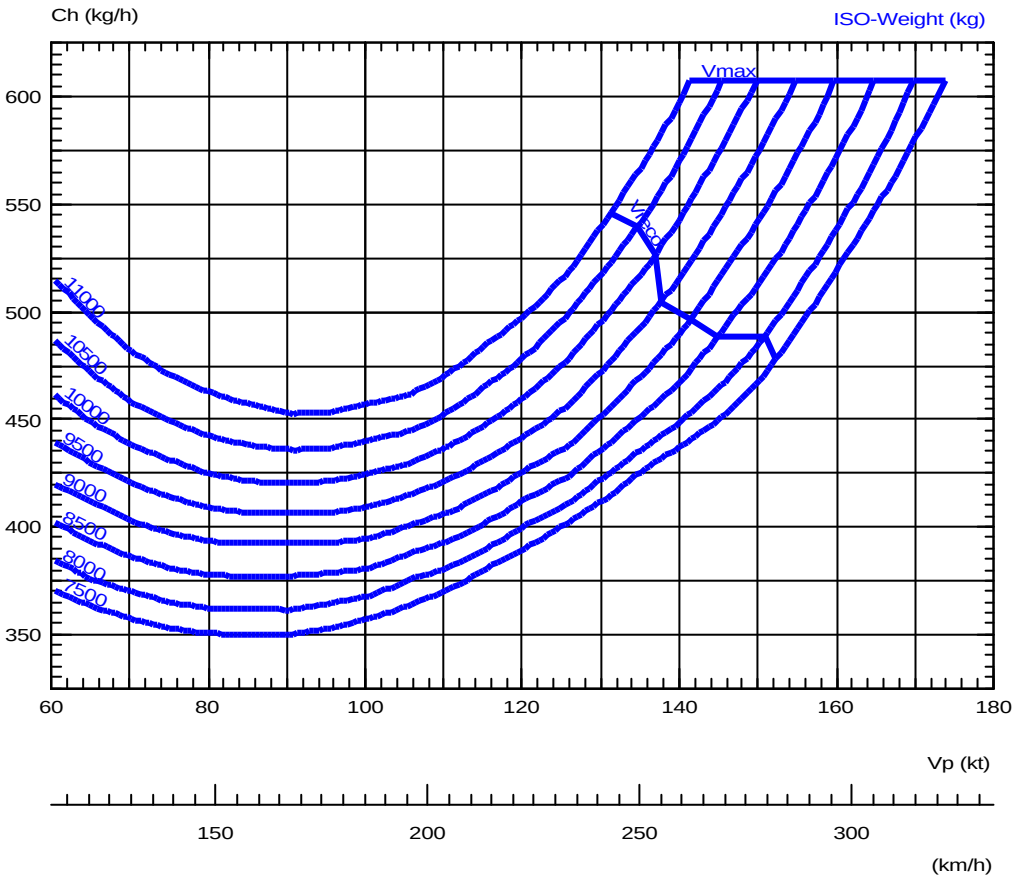
HOURLY FUEL CONSUMPTION

at maximum continuous power
Zp = 5000 ft, ISA



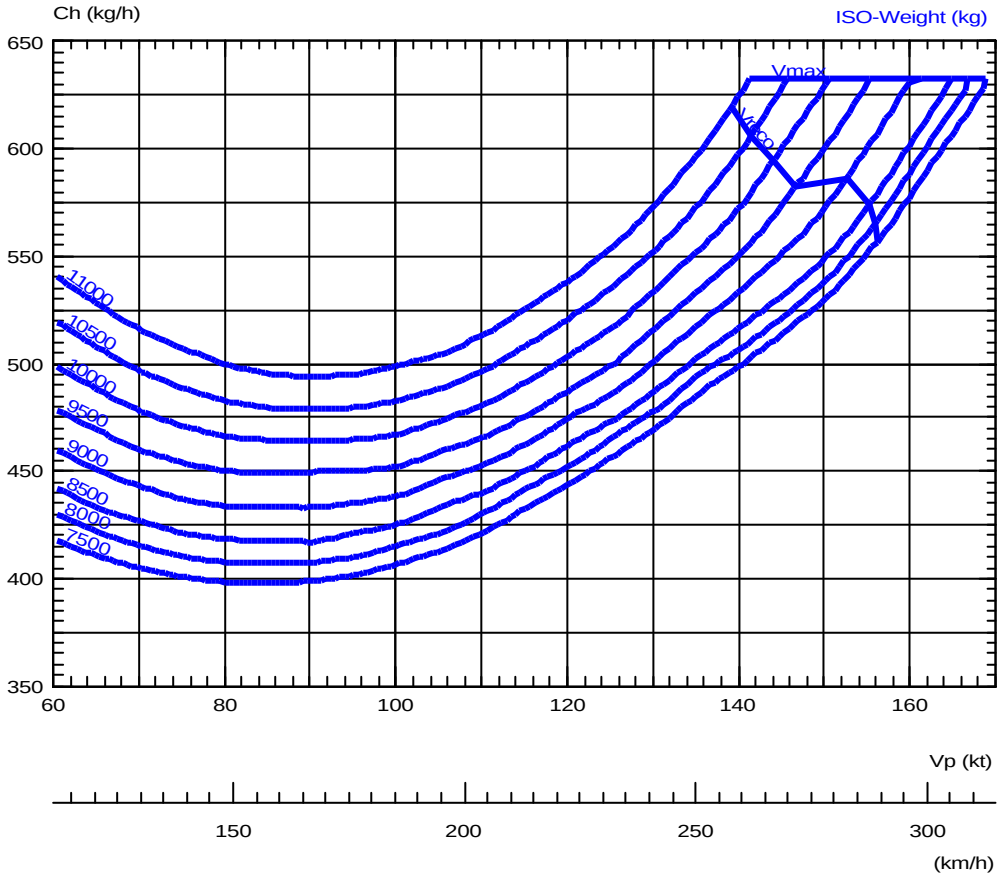
HOURLY FUEL CONSUMPTION

at maximum continuous power
Zp = 10000 ft, ISA



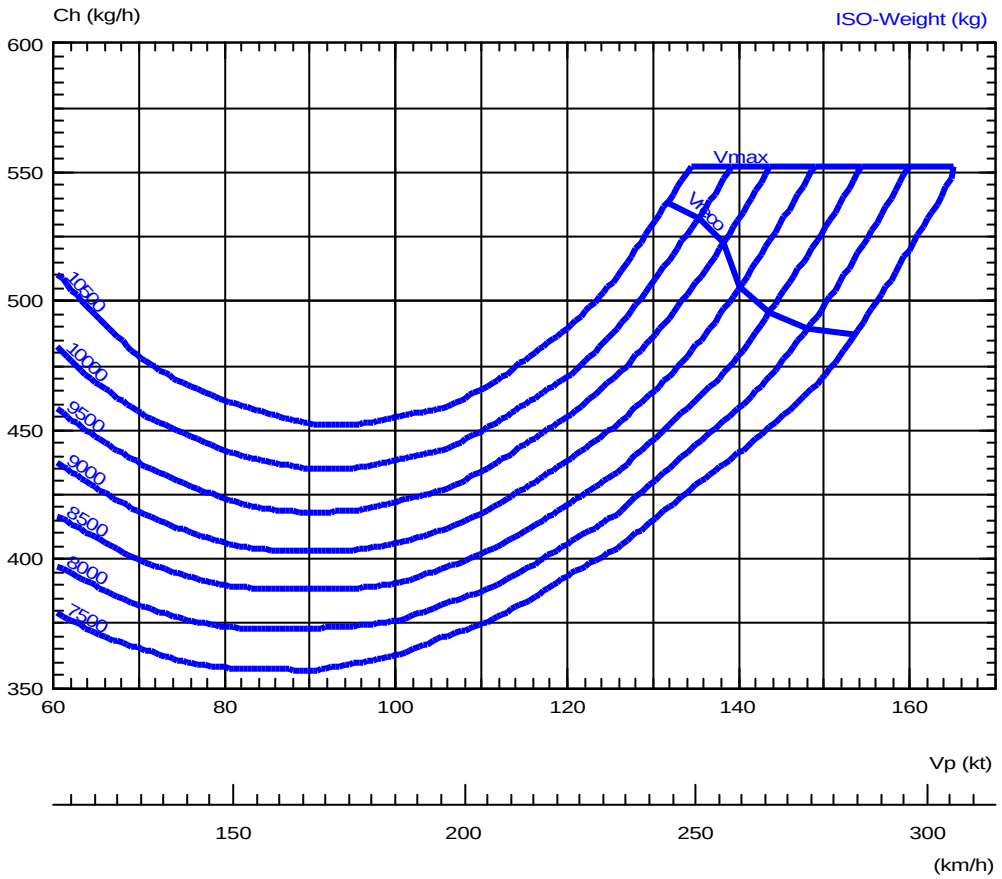
HOURLY FUEL CONSUMPTION

at maximum continuous power
Zp = 5000 ft, ISA+20°C



HOURLY FUEL CONSUMPTION

at maximum continuous power
Zp = 10000 ft, ISA+20°C



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