The Ultimate in Performance

LEADWELL CNC MACHINES MFG., CORP.

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* All performance are based on 220V/3PH/60HZ. Specifications are subject to change without notice.

2016.06

iT Series

V-20iT/V-40iT/V-60iT
5 Axes Machining Center

LEADWELL

LEADWELL CNC MACHINES MFG.,CORP.

5 AXES MACHINING CENTER

Parts with odd-angles and complex curved surfaces

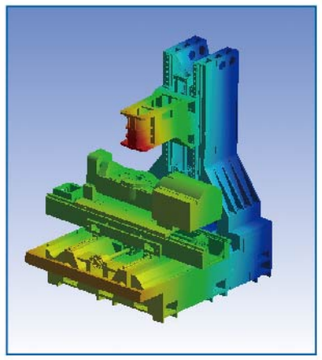
Face Cutting

Grip Cutting

Grip Cutting
with Swing

Grip Cutting
with Slant

Grip Cutting
While rotating



FEA-optimized design

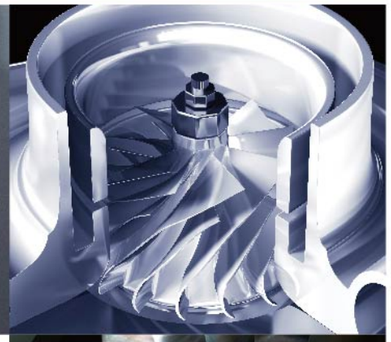
The advantages of 5 axes machining:

- Reduced machining time: By using a flat bottom endmill and maintaining perpendicularity to the complex surface you can step-over the full diameter of the cutter thereby dramatically reducing the required number of passes across a surface. The same principle applies to side mill of angled surfaces.
- Better surface finish: Using a flat bottom endmill to maintain perpendicularity to the complex surface can eliminate ribbing caused by ball-nose endmills.
- Eliminate multiple setups required to re-position the work-piece at complex angles.
- Eliminate costly tooling and fixtures required to hold the work-piece in place.
- Eliminate manual millwork and handwork required to cleanup rough surfaces.
- Machine complex parts that are not otherwise possible, including holes required to be normal to a complex surface.

INDUSTRIAL APPLICATIONS

AUTOMOTIVE	MEDICAL	AEROSPACE

LEADWELL



LEADWELL SMART PROCESSOR

More than a machine

Leadwell is never simply about building a machine and to launch onto the market. Our years of experience, we learn that the right programs must be developed to ensure the competitiveness of the users.

Pre-machining setting

It contains the function that the operator will frequent use before the operations. This including the coordinates setting, tool measurement, tool magazine measurement, and the calculator function.

Machining setting

It includes the parameter data setting, and all the other statistics of the machines; such as the accumulated machining time, and the tool management.

Leadwell Assistor

The assistor contains the functions to help the user to optimize the machine setting.

Maintenance

Operators would be able to gain the current status of the machine, and to access the internet to obtain more useful information.

14 difference useful functions

Machined work pieces.

Users' full satisfaction have always been Leadwell's main focus.

5 AXES MACHINING CENTER

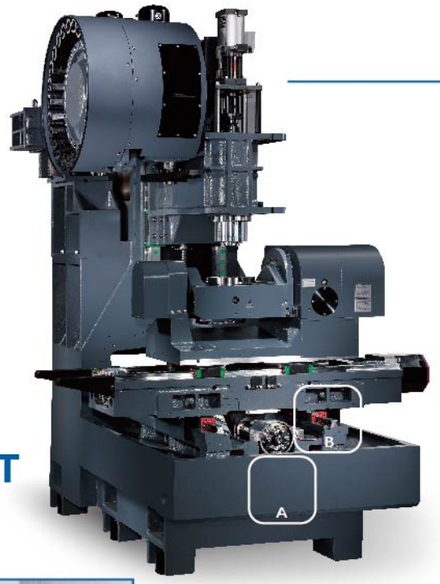
FEATURES

- The V-20*i*T/V-40*i*T/V-60*i*T optimally concentrate the machining process for multiface, intricately shaped parts, and some difficult position of workpiece where 3-axis machines can't overcome, such as under cut.
- For depth mould, the iT series still can keep high efficiency machining by setting a suitable angle of tool, shorten the length of tool holding.
- Avoiding accumulative error from series machining procedure, decreasing total cutting time that substantially achieve the request:High Speed, High Accuracy, High Efficiency.
- 3-axis program still can run under constant position setting for A/C axis (without any cutting interference)

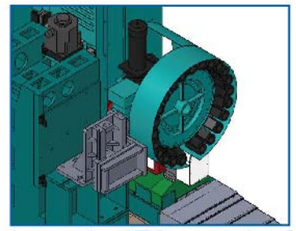
Other features integrated in the Leadwell V-20iT/V-40iT/ V-60iT Series

- High rigid cast iron construction with closed type design.
- Machine stable design supporting by big span saddle and foundation screws.
- Without counter weight enhance the accuracy on mold making as well as avoid vibration.
- Z axis transmission end fixed, as well as ball screw pretension, which enable to reduce the temperature.
- Minimal rapid traverse: 36 M/minute.

RIGID CONSTRUCTION

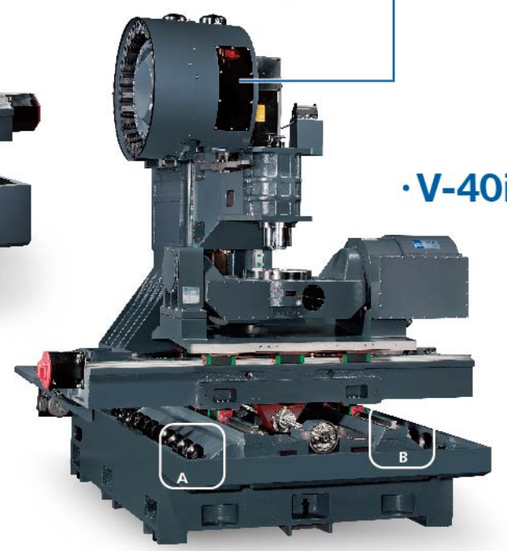


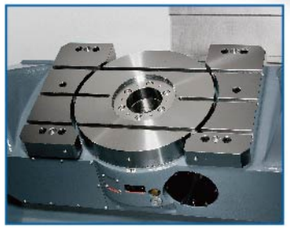
·V-20iT

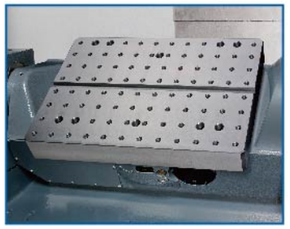


Lower the ATC magazine for shipment

·V-40iT





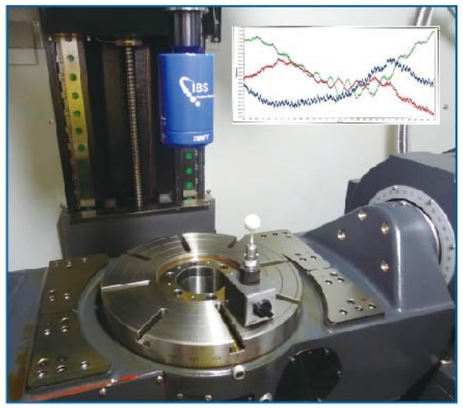


A) Chip Removal

LEADWELL's simple and efficient design uses chip augers on both sides of the machine and provides high volume coolant to wash the chips from the work area.

B) Roller Guide Ways

LEADWELL uses roller guide ways that feature zero clearance and fully-loaded carrying capacity in all directions.

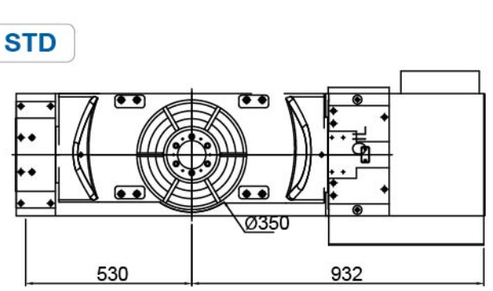


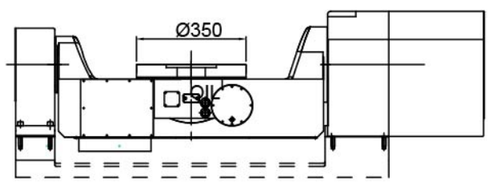
Volumetric Accuracy Control

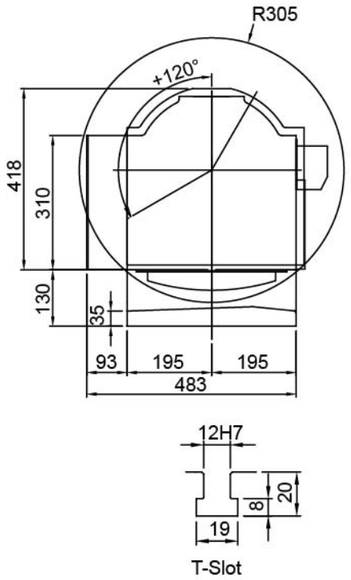
Leadwell optimizes the parameter data and consequently dominates the total acceptance of the machine.

FIXTURE PLATE DIMENSION

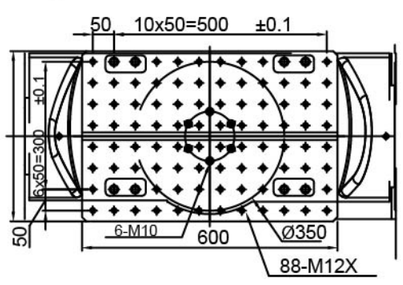
STD

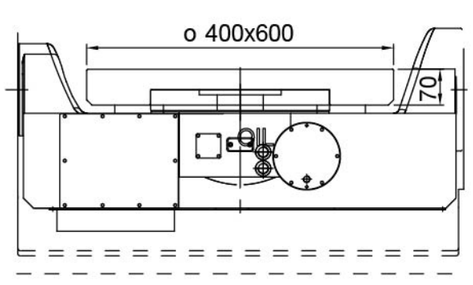




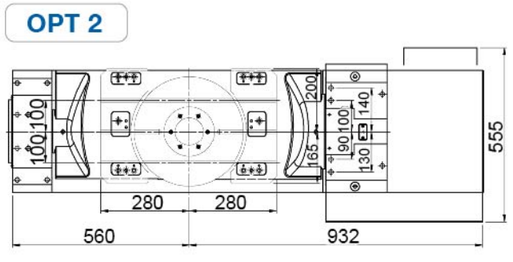


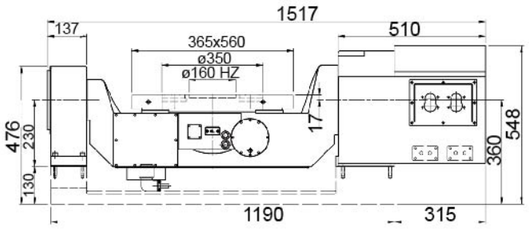
OPT 1





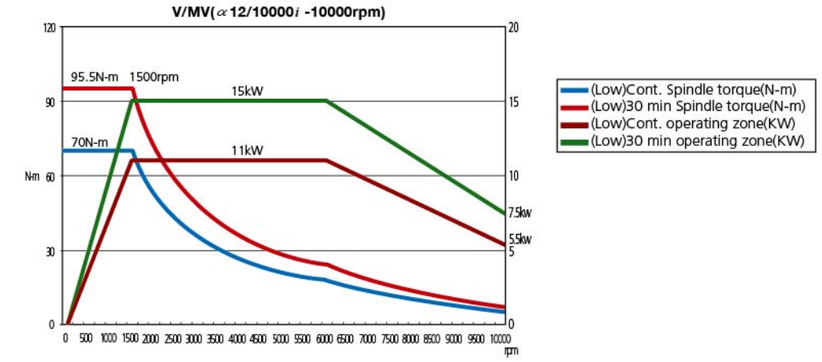
OPT 2



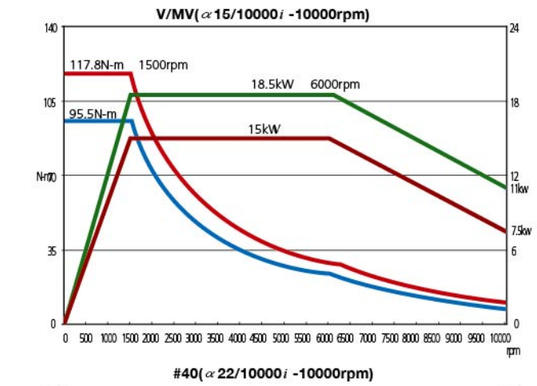


SPINDLE POWER CURVE

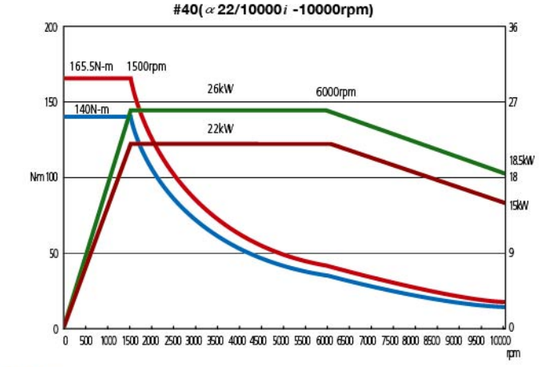
V-20*i*T



V-40*i*T



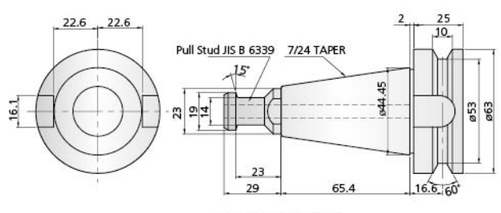
V-60*i*T



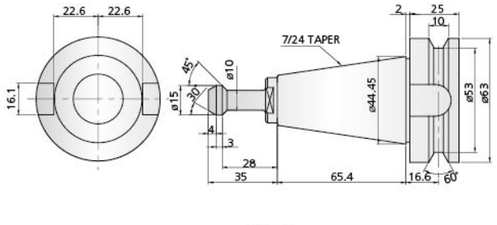
Tool Drawing

BT-40 with CTS & BT-40

Unit:mm



BT-40 with CTS

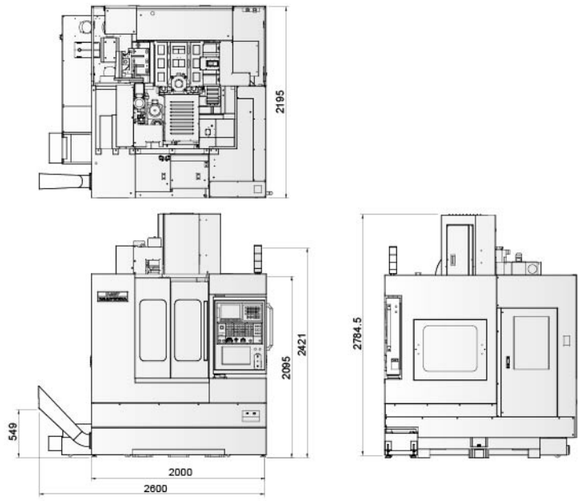


BT-40

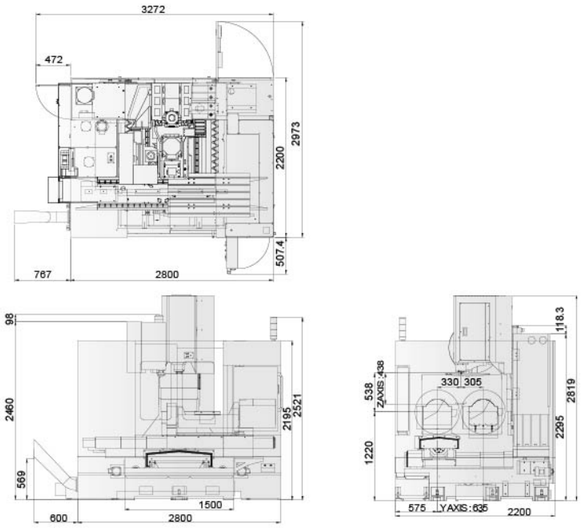
OUTLINE DIMENSION

Unit:mm

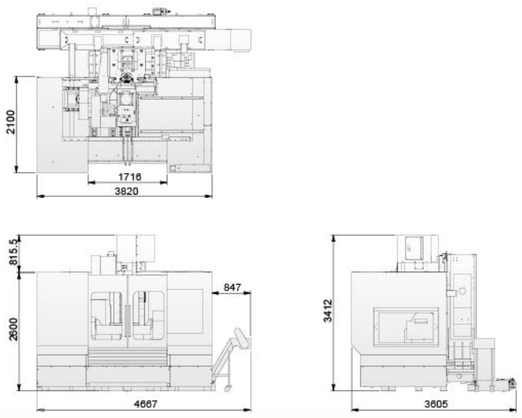
V-20iT



V-40iT



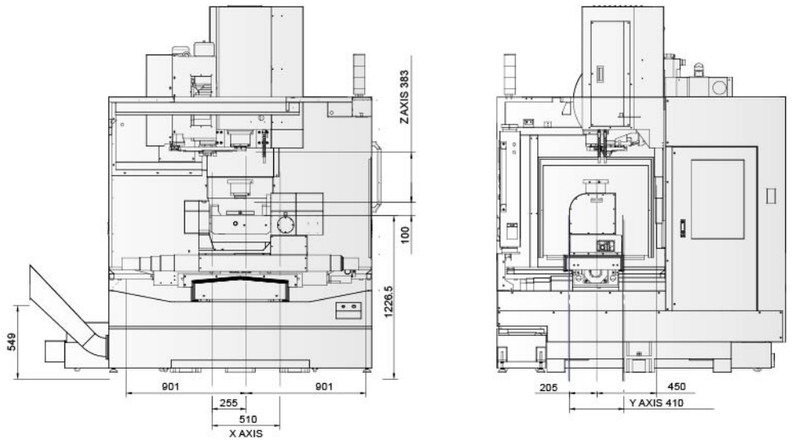
V-60iT



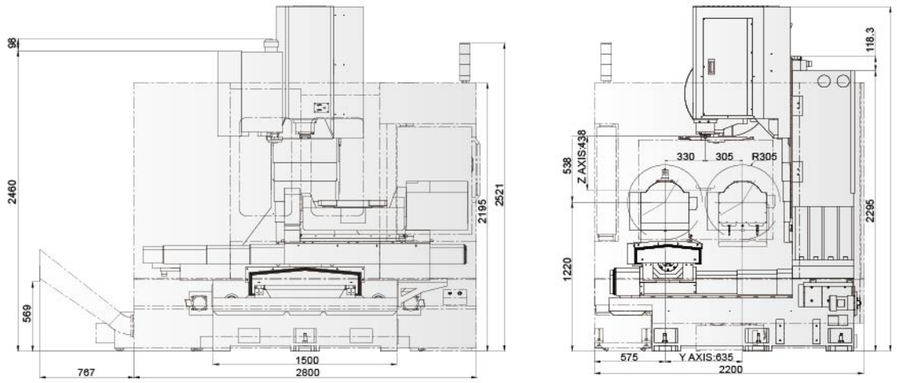
INTERNAL DIMENSION

Unit:mm

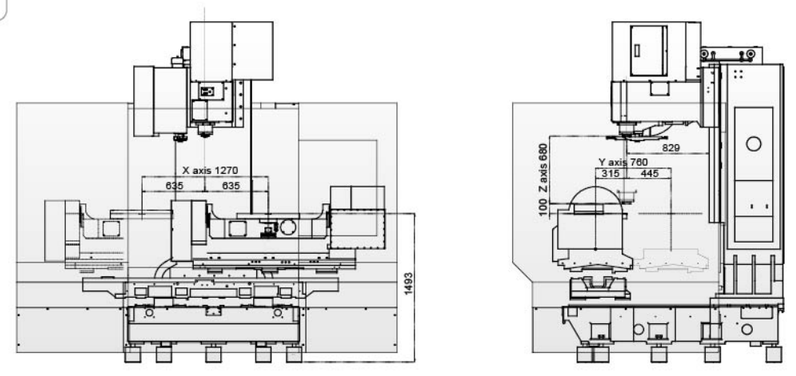
V-20iT



V-40iT



V-60iT



MACHINE SPECIFICATIONS

ITEM / MODEL		V-20*i*T	V-40*i*T	V-60*i*T
A.T.C.	Type	ARM	ARM	ARM
CAPACITY	Unit			
X axis travel	mm (in)	510 (20)	846 (33)	1270 (50)
Y axis travel	mm (in)	410 (16)	635 (25)	760 (30)
Z axis travel	mm (in)	383 (15)	488(19.2)	680 (26.7)
Table top to spindle end	mm (in)	100-483 (3.9-19)	50-538(1.9-21)	100-780 (3.9-30.7)
Column front to spindle center	mm (in)	450 (17.7)	635 (25)	825 (32.4)
TABLE				
Table size (LxW)	mm (in)	Ø210 (Ø8.3)	Ø350 (Ø13.8)	Ø630 (Ø24.8)
Permissible mass of workpiece	kg	75(0°~45°)/ 50(60°~90°)	200(0°~45°)/ 100(60°~90°)	200(0°~45°)/ 150(60°~90°)
T-solt size		12	12	14H7
SPINDLE				
Spindle speed	rpm	10000	10000	10000
Spindle nose (normal size)	mm	7/24 Taper, NO.40		
Ratios		1:1	1:1	-
Max.spindle torque	N.M(ft.lbf)	70(51.7)	95.4(70.1)	140 (103)
Transmission		H.T.D Belt	H.T.D Belt	H.T.D Belt
FEED RATE				
Rapid traverse	m/min (IPM)	36/36/36 (1417/1417/1417)	36/36/36 (1417/1417/1417)	30/30/20 (1181/1181/787)
Feed rate	m/min (IPM)	10 (394)	10 (394)	5 (196.8)
A.T.C.				
Tooling shank (nominal size,NO.)		BT-40	BT-40	BT-40
Tool storage capacity		24	24	24
MOTORS				
Spindle motor (30min)	KW (HP)	15 (20.1)	18.5 (24.8)	26 (34.9)
X-axis feed motor	KW (HP)	3 (4)	4(5.4)	5.5 (7.3)
Y-axis feed motor	KW (HP)	3 (4)	4(5.4)	6 (8)
Z-axis feed motor	KW (HP)	4 (5.4)	4 (5.4)	5.5 (7.3)
Rotating motor	KW (HP)	1.4 (1.9)	1.6 (2.1)	2.7 (3.6)
Tilting motor	KW (HP)	1.6 (2.1)	4 (5.4)	7 (9.3)
MISCELLANEOUS				
Positioning accuracy (P) X、Y、Z VDI(3441)	mm	0.01/1000	0.01/1000	0.015/1000
Repeatability (PS) X、Y、Z VDI(3441)	mm	0.007/1000	0.007/1000	0.01/1000
MACHINE SIZE				
Height of machine (H)	mm(in)	2620(103.1)	2721(107)	3420 (134.6)
Floor space (LxW)	mm(in)	2700x2140(106.3x84.2)	3840x2200(151.2x86.6)	3820x4365(150x171.8)
Total machine weight	Kg(lb)	5200(11464)	7000(15432)	12500(27500)
Power requirement	KVA	35	35	60
Controller	FANUC	0i-M		

*AVAILABLE CONTROLLER: SIEMENS/FAGOR/HEIDENHAIN

MACHINE ACCESSORIES

	V-20*i*T	V-40*i*T	V-60*i*T
Full enclosure guarding	●	●	●
Chip conveyor (auger type)	●	●	●
Work light	●	●	●
Alarm lamp	●	●	●
Heat exchanger	●	●	●
Rigid tapping	●	●	●
Auto counter for work piece	●	●	●
Remote MPG	●	●	●
10000rpm spindle	●	●	●
Spindle oil chiller	●	●	●
Spindle air purge	●	●	■
Air conditioner	■	■	●
Surrounding coolant system	■	■	■
12000rpm spindle	■	■	■
15000rpm direct drive spindle with oil	X	■	■
Tool overload detection	■	■	■
Linear scale	■	■	▲
CTS From A & CTS Preparation	■	■	■
Auto tool length measurement (ATLM)	■	■	▲
Automatic workpiece measurement	■	■	▲
Simple tool life management	■	■	▲
Chip conveyor outside machine & chip bucket	■	■	■
DNC link software	■	■	▲
Programmable nozzle	■	■	▲
Programmable air blow	■	■	■
Extra coolant tank	■	■	▲
Spindle annular coolant jet (Arm type ATC)	■	■	▲
Oil skimmer	■	■	▲
Coolant gun	■	■	■
Through hole drill kit	■	■	■
Auto door	▲	▲	X
ARM 30T ATC	▲	■	▲
ARM 40T ATC	X	■	▲
Fluorescent lamp	X	■	X
Two speed gearbox	X	X	■
Base wash system	X	X	■
Shower coolant system	X	X	▲
Oil mist collector	X	X	▲

●:STD / ■:OPT(DESIGNED) / ▲:OPT(TO BE ADVISED) / X:N/A(NOT AVAILABLE)