



DRAWFRAME LDF3

Get The Best



LDF3

The new generation autoleveller Drawframe LDF3 is designed to work up to the delivery speed of 1100 m/min with high degree of autolevelling efficiency that delivers consistent quality.





Special Features

Duo Digital Auto Levelling

- Separate dedicated systems for auto levelling and quality monitoring

Direct Motor Drive

- S Draft – Servo motor controlled levelling concept
- Inverter controlled main motor
- Seamless transmission and reduced downtime



Efficient

- TR Strip – Oscillating stripper for cleaning top rollers
- SP- SMART Auto piecing system

Kinetic Back up Technology

- Machine is brought to controlled sequence stop mode
- Smooth restart after power is resumed

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Economical

- LTL – Top roller end bushes with lifetime lubricant
- Innovative Replaceable coiler plate
- Optimized running cost



Top Notch Quality

- SQ SET – Auto suggestion of levelling action point
- QMS – Quality Monitoring System
- LDF 3 , the smart drawframe delivers benchmark quality and helps user to monitor various quality parameters

Smooth Operation

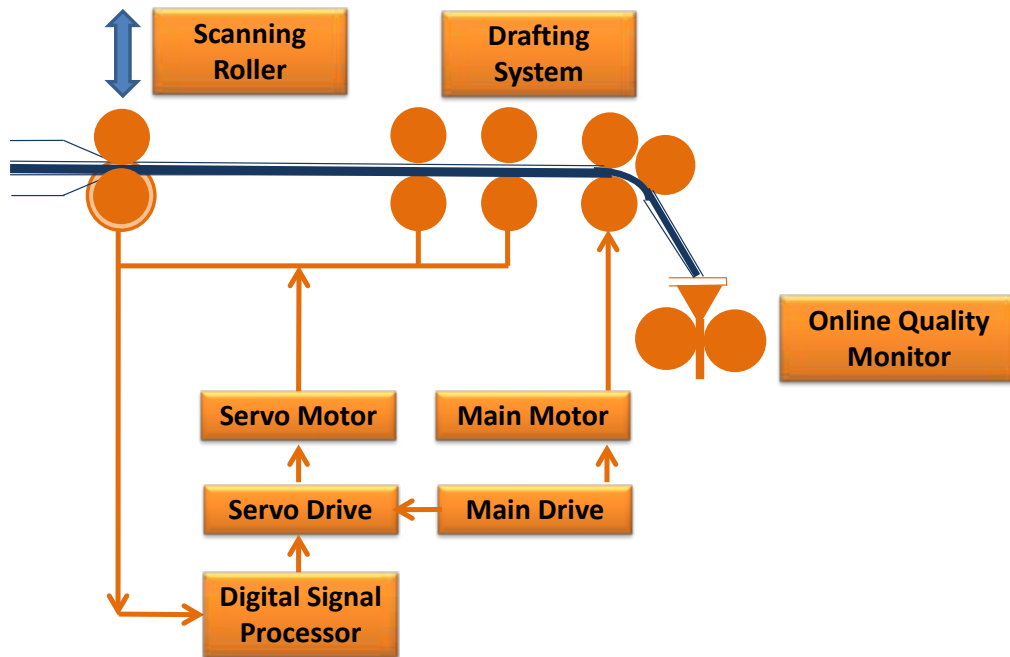
- e-Sliver cutting
- Kinetic back up technology to handle power fluctuation & failures.
- Inverter for fan motor (Optional)
- Separate motor for coiler (Optional)



Best Sliver Quality

Duo digital levelling principle

LDF3 equipped with Duo Digital concept paves the way to achieve benchmark sliver quality. Accuracy in measurement of input sliver and transmitting to drives when any deviation is measured helps in achieving perfect sliver quality in delivery.



Scanning

Perfect scanning serves as gateway for perfect levelling. The proven tongue and groove technique with optimum diameter of scanning roller ensures accurate measurement.

Levelling

Servo drive concept adapted for the drive systems pitches the right quality in output sliver. Elimination of gear box to transmit the drive simplifies and enhances the levelling operation. This new drive concept for levelling eliminates the uncertainty and nullifies even minute chances of error.





High performance Drafting System

S-Draft

Unique 4 over 3 drafting system provides the flexibility to process wide range of materials with maximum delivery rate. Guiding the well drafted sliver towards the delivery zone ensures the quality sustainability in output.

The change of main draft on touch of the screen ensures quick change of lot or sliver hank without change wheels. The S-Draft with servo motor transmitting drive for levelling makes the drafting system unique compared to other systems.



SP – SMART Auto Piecing System

The machine is equipped with pneumatic aided auto-piecing technology, which eliminates manual piecing of material after breakage and saves considerable amount of time. It also ensures uniform quality of sliver as there is a high probability of creating a faulty place in sliver by improper manual piecing.



TR Strip - Programmable Oscillating stripper for cleaning Top Rollers

Cleanliness of the top rollers in drafting is ensured with oscillating top stripper. Trash or sticky honeydew deposits on the surface of the top rollers are prevented through well placed stripper lips and are drawn into the suction through lifting of strips at regular intervals of time. It ensures cleaned top rollers at any instant and thus supports in achieving improved sliver quality and also increases productivity of the machine.

In the event of any lapping on the top rollers, efficient stop motion mechanism stops the machine at the preliminary stage of lapping which reduces the downtime and prevents top roll getting damaged due to hard lapping and increases the life of cots.



LTL – Top roller with Life Time Lubricant

Uniformly loaded top rollers helps in trouble free performance during running with lower temperature of top roller cots. Equipped with lifetime lubricated end bush bearings, downtime for lubrication could be saved significantly and avoiding failure of components due to deviation from the schedule.



SQ SET - SMART QUALITY SET for right quality

During lot change, setting the levelling action point is the most critical activity for perfect autolevelling function. This is done automatically by SQ SET function thus saving the time during the process.

Shift - 1 LMW 06/01/2020
DRAWFRAME LDF 3 10:00:10

Feed sliver: -25% 0% 25% Sliver monitor: -5% 0% 5%

Autoleveller - ON Quality Monitor - ON

Delivery speed: 511 MPM Sliver monitor % (30 mtr): -0.1
 Current length: 1383 Mtrs U%: 1.56

83.48 % CV% (1 mtr): 0.26

HIGH SPEED

SETTINGS SERVICE REPORTS USER LOGOUT

MACHINE SETTINGS	PROCESS SETTINGS	AUTO LEVELLER	INSTALL	BRIGHT / CONT.	EXIT
Levelling Action Point - Quality Values					
Action Point	U %	CV %	Action Point	U %	CV %
1	969	1.93	8	990	1.80
2	972	1.86	9	993	1.78
3	975	1.86	10	996	1.81
4	978	1.81	11	999	1.86
5	981	1.80	12	1002	1.89
6	984	1.74	13	1005	1.95
7	987	1.72			
			Auto Search	Autoleveller	
SETTINGS	SERVICE	REPORTS	USER	LOGOUT	

In the function of SQ SET, immediately after the lot change, the system starts with the standard value of levelling point and keeps trying with the different neighboring values and parallelly checking the U% & CV% of delivered slivers. Out of many values of levelling point, the one which gives the best value is shown as recommendation to the operator which, in turn, can be taken as levelling point for continuous operation.

QMS – Quality Monitoring System

Quality Monitoring System with improved user friendliness enables constant monitoring of sliver quality and provides technological support to operator. It aids in correcting and taking all possible measures to produce desired quality yarns.

Quality Monitoring system enables control over the quality and addresses any deviation in the process instantly. If the deviations are beyond the set quality limits, then the QMS function will stop the machine and aids the operator for easy diagnosis of the fault.

MACHINE SETTINGS PROCESS SETTINGS **U % STOP CONTROL** INSTALL BRIGHT / CONT. EXIT

U % Stop control : ON

U % Stop limit : 2.00 %

U % Offline value : 1.50

Sliver monitor: -5% 0% 5%

SETTINGS SERVICE REPORTS USER LOGOUT

MACHINE SETTINGS PROCESS SETTINGS **CV % STOP CONTROL** INSTALL BRIGHT / CONT. EXIT

CV % Stop control : ON

CV % Stop limit : 1.00 %

CV % Offline value : 0.50

Sliver monitor: -5% 0% 5%

SETTINGS SERVICE REPORTS USER LOGOUT



QMS monitored parameters include

- Sliver count & A%
- Sliver evenness CV% and length variation values for 5cm, 10cm, 25cm, 50cm, 1m, 3m and 5m
- Spectrogram analysis
- Monitoring of thick place > 2cm

Monitoring of thick place and its control enables the overall technological control on the processes by exercising service activities on pre-drawframe process like card & comber and also helps to achieve high productivity on the post drawframe processes like roving, yarn production and winding.

When this monitoring is integrated with Spinconnect module, data could be assessed from any location for swift action.



Auto Cleaned Filter Screen

The filter system is cleaned regularly during each can change which ensures uniform suction during every doff. Also suction pressure is continuously monitored through differential pressure switch for indication to operator.

Inverter for Fan Motor (Optional)

Additionally an inverter (optional) is provided with fan motor to facilitate the suction frequency adjustment upon requirement.



Quality ensured with perfect coiling

Autolevelling process is said to be complete only with perfect coiling. Coiler driven by inverter controlled main motor results in smooth coiling from the beginning to doffing of Cans. Perfect synchronisation is ensured during power failure, normal stop, doffing and restart of machine and this drive solution for coiler has significantly enhanced the sliver appearance.

Drawframe LDF3 is featured with Stainless Steel Coiler especially for man made fibres. This unique design calls for changing only the coiler cover plate after its service life instead of entire coiler as done in conventional type or other make drawframes.

Separate Motor for Coiler (Optional)

Drawframe LDF3 is available with the option of separate motor for coiler. This motor helps for optimizing the coil appearance by altering the coiling speed as required.





e-Sliver cutting

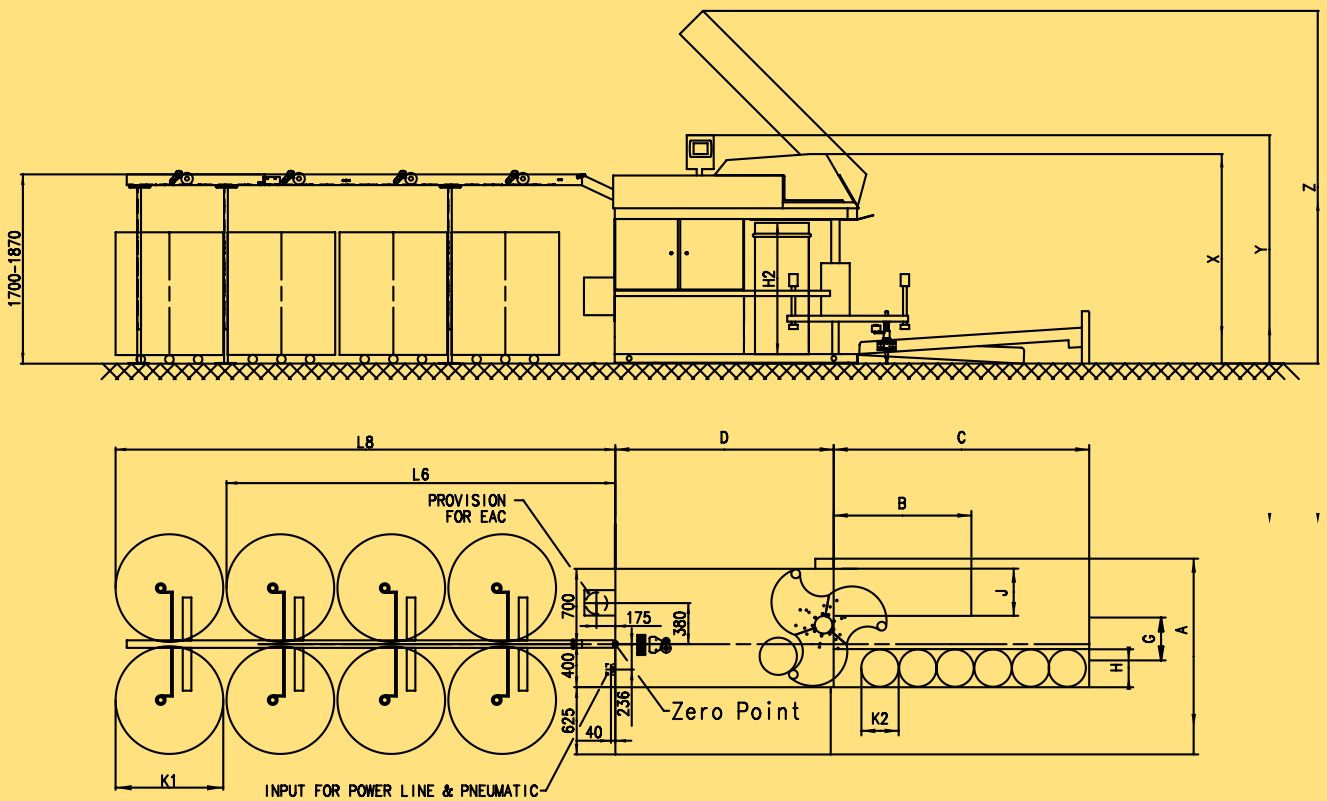
During can change, the sliver delivered has to be discontinued and has to be restarted in the subsequent can. This happens in the continuous run of the machine without interruption. This has been ensured by disengaging the sliver by applying necessary draft during the can changing sequence and normalizing again during standard running.

Space savings

To accommodate machine with confined space conditions in the mill, machine can be supplied with compact type different platform arrangements with respect to the condition of neighbouring drawframes.

Machine Layout

Machine with 300 mm Can diameter



Coiler With Can Changer

K2	Number	A	B	C	D	E	F	J
[mm]	Of Empty cans	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
300	6	1805	1354	1924	2250	400	350	350

Power Creel (Driven)

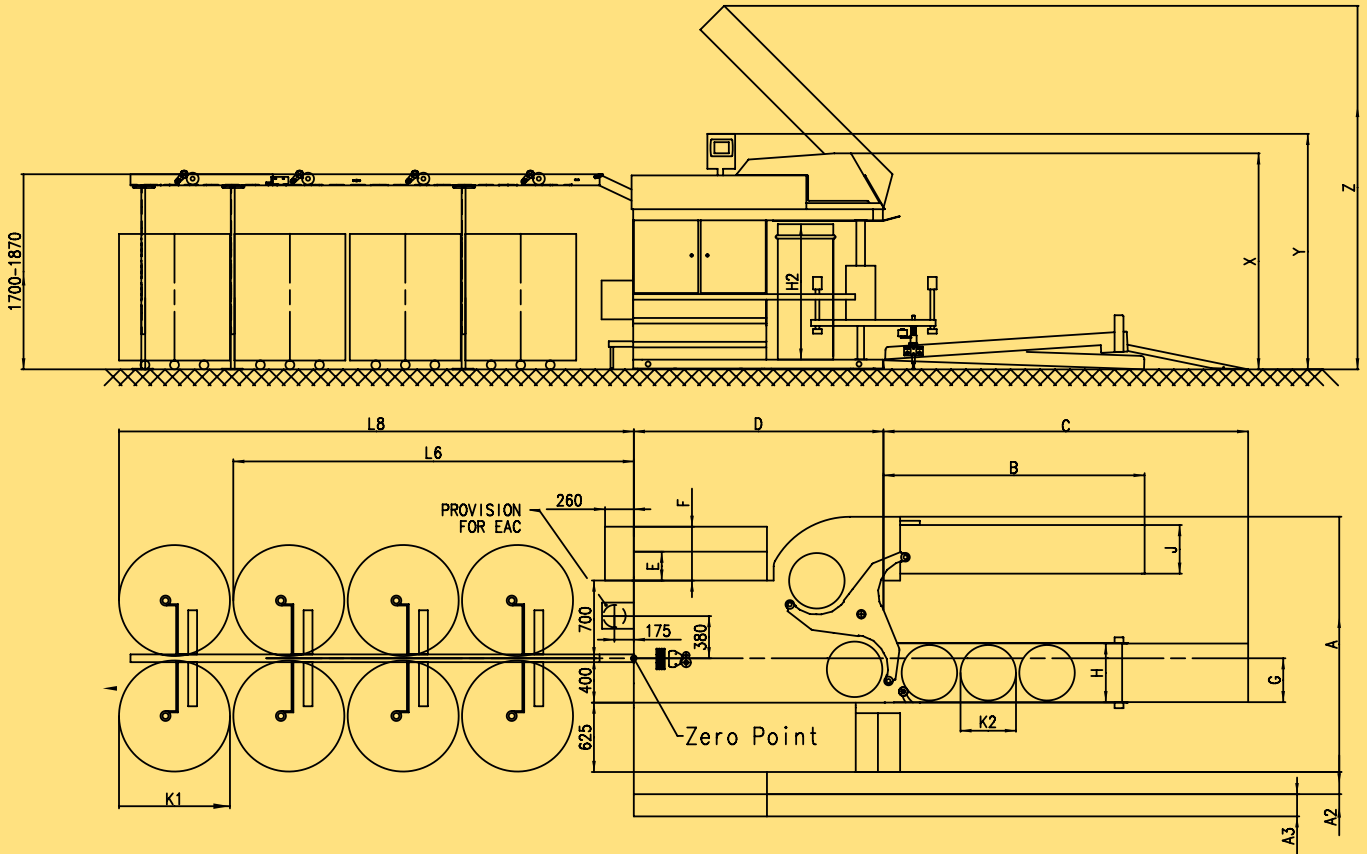
K1	L6	L8
[mm]	[mm]	[mm]
600	2550	3260
1000	3630	4670

X,E,F,A2 & A3 as a function of can height H2

H2	X	Y	Z
[mm]	[mm]	[mm]	[mm]
900	1641	1812	2956



Machine with 350/400/450/500/600 mm Can diameter



Coiler With Can Changer

K2	No. of Empty Cans	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	J [mm]
350	5	2004	1350	1924	2250	400	400	400
400	5	2300	2354	3290	2250	400	450	450
450	4	2350	2354	3290	2250	400	500	500
500	4	2300	2354	3290	2250	400	530	550
600	3	2500	2354	3290	2250	400	630	630

Power Creel (Driven)

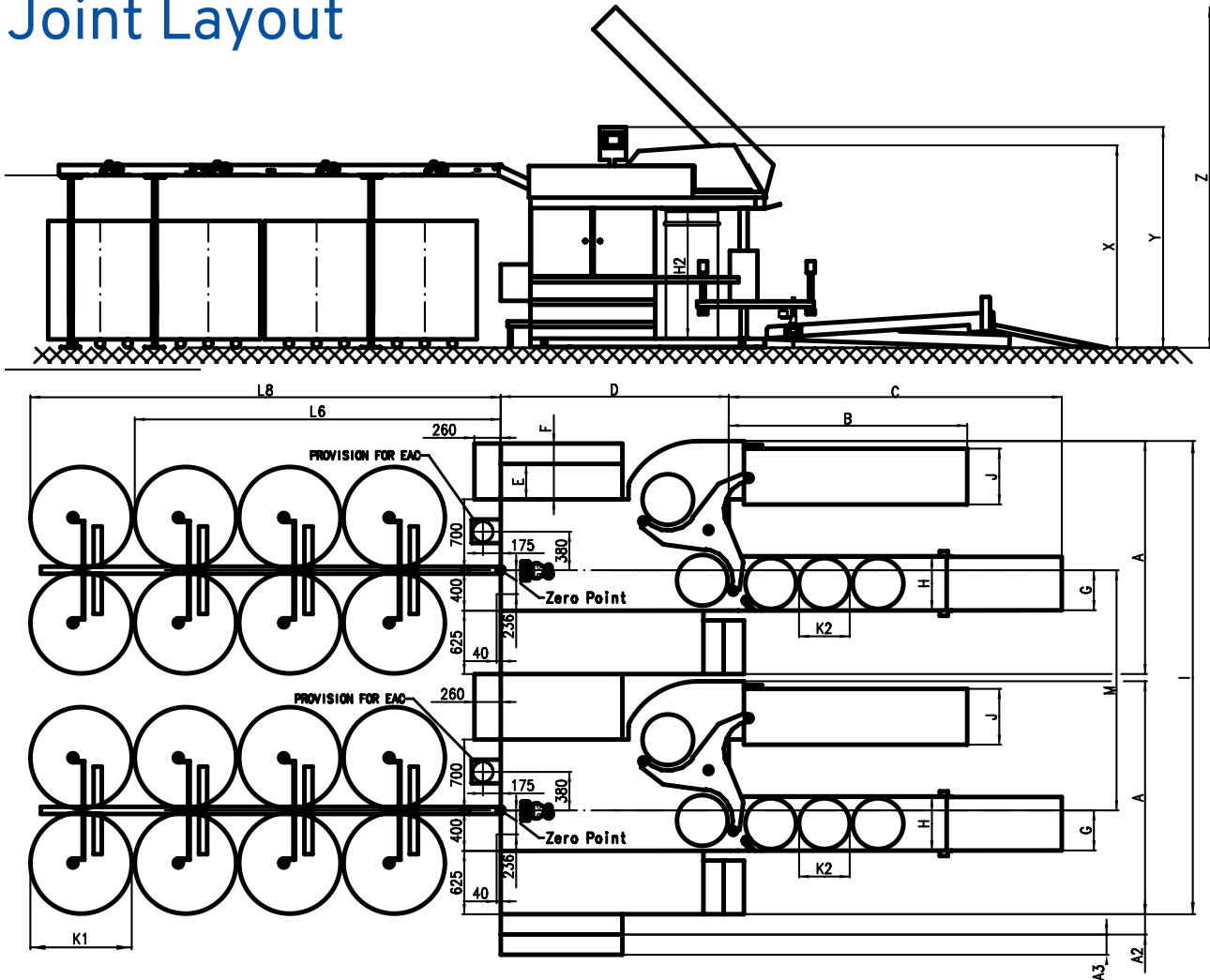
K1 [mm]	L6 [mm]	L8 [mm]
600	2550	3260
1000	3630	4670

X,E,F,A2 & A3 as a function of can height H2

H2 [mm]	X [mm]	Y [mm]	Z [mm]	E [mm]	F [mm]	A2 [mm]	A3 [mm]
900	1641	1812	2956	-	-	-	-
1000	1691	1862	3006	350	-	200	-
1050	1741	1912	3056	350	550	200	200
1100	1791	1962	3106	350	550	200	200
1150	1841	2012	3156	350	550	200	200
1200	1891	2062	3206	350	550	200	200

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Joint Layout



13% space saving

Integration of Drawframe through SPINCONNECT

Auto Leveller drawframe LDF3 can be integrated with Spinconnect, a web based monitoring and control application. The HMI details are transferred through Wi-Fi / LAN Connection and all the parameters can be viewed in a central computer.

- Editing of process parameters from a central location for better process control and lot changes across machines.
- Remote viewing of Machine PLC status from any location for troubleshooting and for software upgradation.
- User defined reports and charts for analysing the drawframe performance can be generated for further improvement.
- Predefined daily, weekly, monthly reports can be sent through mail to respective users.





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Technical Data

Material	: Cotton, Man-made fibers and blends
Fiber length	: 25 to 80 mm
Delivery speed	: Upto 1100m/min (Mechanical)
Number of doublings	: 4/6/8
Feed hank	: 0.04 to 0.24 Ne
Delivery hank	: 0.07 to 0.24 Ne
Draft	: 3.58 to 11.36
Delivery can dia (mm)	: 300, 350, 400, 450, 500 & 600
Delivery Can height (mm)	: 900, 1000, 1050, 1100, 1150, 1200
Feed table(diaXht) (mm)	: Upto 600 X 1200 / Upto 1000X1200
Automatic can changer	: Standard supply
Sliver cutting device	: Electronic (Standard supply)
Compressed Air Requirement	: 0.2 Nm ³ /hr at 6 bar
Style of discharge of dust air	: EAD -Into Department / EAC- Duct below floor

Installed Power

Main Drive (kW)	: 5
Fan motor (kW)	: 1.5
Autolevelling Servo motor (kW)	: 3.77
Can changer motor (kW)	: 0.25
Total installed power	: 10.52 kW



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