D147X54-EXHD [EXTRA HEAVY DUTY] - USA SHAFTS & BEARINGS – INSTALLATION & OPERATION MANUAL

Contents

Specifications

- **Machine:** Pneumatic Separator D147X54-EXHD
- **Size:** 54”
- **Drawing / LOM #:** D147X54-EXHD-100
- **Serial Number:**
- **Date:**
- **Customer:**
- Sales Order #:

Introduction

Thank you for purchasing the D147X54-EXHD Distributor from Ibis International, Inc.

The following pages will provide technical information regarding Safety, Installation, Maintenance, Spare parts & Overall Dimensions.

If you have any questions regarding the operation or maintenance of this machine, please call.

Please review the SAFETY INFORMATION on the next page before installing or operating this machine. Also, be sure your operator is fully aware of the issues regarding SAFE OPERATION of this machine.

Installation

The D147X54-EXHD must be installed on a platform, stand or mezzanine that allows material to exit the bottom of the unit. This unit can possibly generate vibrations during operation, so appropriate measures must be taken to minimize or eliminate unit movement.

The D147X54-EXHD has three openings: a top material & air inlet; a side air takeoff; & a bottom material discharge. In general, ducting must be connected to the top of the unit via transition to transport material into the unit. The air takeoff is used to balance the air coming into the unit. Air pressure should be a 'slight positive' on the machine. Generally ½-1" w.c. differential between inlet and outlet.

The bottom opening requires a chute or transition into a baler, cart or another method the customer is using to collect material. It is recommended that the customer supply a sensor in the chute or transition below the D147, to prevent material backup into the unit, if there is a material buildup downstream. Great damage can result from material jamming in the D147. This condition is almost always caused by material backup.

Sensor Hookup:
The D147X54-EXHD normally has two sensors:

(1) Drive proximity sensor for the bottom roll shaft
(2) Access door interlock switch.

The drive proximity sensor is used to monitor pulses seen by the drive during operation.

The access door interlock switch is used as a safety switch.

There are many versions of D147X54 MACHINES, SO PLEASE CHECK PARTS BEFORE ORDERING

Machine Rotation

Although the D147 will operate either direction, the optimal rotation is Clockwise as one looks at the drives. In other words; during operation, material is being fed downward through the flat doffer and into the bottom round doffer. If the rotation is incorrect, switching the correct motor lead will change direction. Both the bottom and top doffers will rotate in the same direction at the same RPM. The doffer shaft RPM should be between 313 and 330.
To maintain the proper doffer shaft RPM, the sheave on the motor will have to change in diameter in relation to 60hz or 50hz applications. For the 60hz units with a motor RPM of 1140 you will use a 3.4" pitch diameter 2-groove sheave and for 50hz units with a motor RPM of 950 you will use a 4.2"pitch diameter 2-groove sheave.

Adjustment

Flat Doffer blades are the component on the D147X54-EXHD that need the most adjustment. The flat doffer blade should barely touch the screen when rotating. It is easy to ascertain if the flat doffer is adjusted incorrectly, as one will hear a very loud ‘flapping’ noise as the flat doffer blades hit the leading edge of the half moon screen. If the blades are so close that the blades actually bend on contact, these blades will quickly wear out and damage to the screen may occur as well.

Once the machine is installed – check that the doffers rotate freely with minimal interference to the contact points. One should be able to open the access door [ALWAYS LOCK OUT POWER] and rotate the flat doffer by hand. If this is not possible, there is either a material jam or interference at some point. Do not operate the D147X54-EXHD, if there is a binding situation at the doffers.

Safety

Operators should always be aware of the safety issues of the machines on which they work. This machine has several pinch points. Care should always be taken when working around the machine and especially when performing any maintenance activity.

SAFETY NOTE: When performing maintenance checks and services **ALWAYS** be sure that the machine is off and the power is locked out.

DO NOT clean the machine while the machine is under power!

There are several pinch points on the machine that are guarded. They are easily recognized where the doffers and screens meet, and when the drive components are exposed.

DO NOT remove guards while in operation.
DO NOT reach into these pinch points while the machine is in operation.

All guards & access doors must be in place after the maintenance task is completed and before machine startup.

As with any machine with moving parts and human operators, reasonable care and attention should always be paid to the safe operation of the machine. If it looks unsafe, **DON'T DO IT!**

Maintenance

The following items should be checked on a regular basis to ensure the continued smooth operation of your machine. The time interval involved depends on the environment you are working in (i.e. dusty, hot, humid, staple length, fiber condition, etc). Just remember, failure to perform periodic preventive maintenance will ALWAYS lead to failure of the machine!

NOTE: Be sure that the machine is off and power is locked out when performing maintenance service. **ALWAYS BE SAFE!**

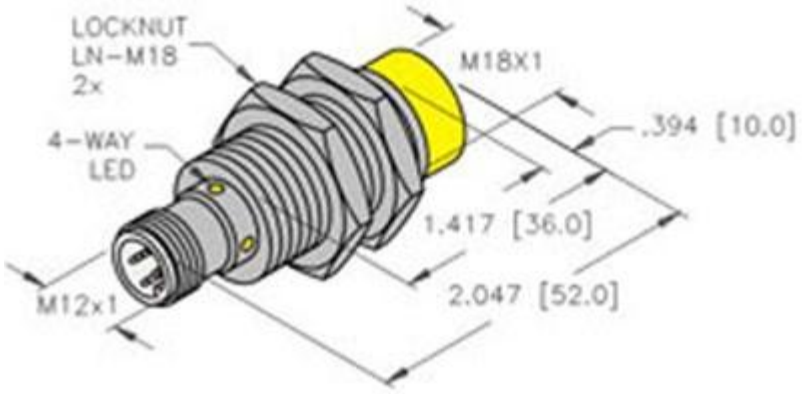
- Clean off fiber wrap on shafts and bearings
- Check for tightness and wear of belts and seals
- Check safety switches for mechanical stability and electrical continuity
- Check that all metal, guards and transitions are in place
- Check & lubricate bearings on a regular schedule
- Check half-moon and flat doffer screens for wear and cracks
- Clean out dust from behind outlet screen
- Check flat and round doffer for wear cracks or damage
- Check setscrews on shaft keys for tightness.

Attention:

Jan-2011
Per customer specification, this D147x54-EXHD unit has been fitted with special sensors on the drive shaft and the door safety interlock.

SENSOR: TURCK # NI8-M18E-AP6X-H1141

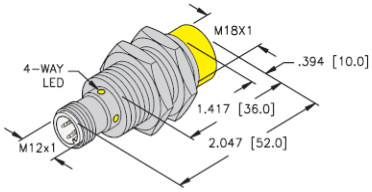
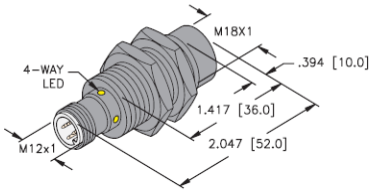
REFERENCE IBIS PART #5900-401



Please use the following Turck spec pages and disregard the sensor information contained within the standard Ibis D147x54-EXHD manual.

Ibis International, Inc.

Inductive Sensors

Housing Style	Part Number	ID Number	Features	Sensing Range (mm)	Output
18 mm - Nonembeddable, *eurofast*® Connection 	Ni 8-M18-AD4X-H1141	T4414700		8	2-Wire DC
	Ni 8-M18-AD4X-H1144	T4411288		8	
	Ni14-M18-AD4X-H1141	T4417241	*Ext. Range*	14	
	Ni14-M18-AD4X-H1144	T4417290	*Ext. Range*	14	
	Ni 8-M18-AN6X-H1141	T4614800		8	3-Wire DC NPN
	Ni10-EM18WD-AN6X-H1141	M4653433	*Washdown*	10	
	Ni10-M18-AN6X-H1141	T4614892		10	
	Ni10-M18WD-AN6X-H1141	M4653440	*Washdown*	10	
	Ni12U-EM18-AN6X-H1141	M1645350	*Uprox*	12	
	Ni12U-EM18-AN6X2-H1141	M1645355	*Uprox*	12	
	Ni15U-EM18WD-AN6X-H1141	M1634835	*Uprox Washdown*	15	
	Ni12U-M18-AN6X-H1141	M1645150	*Uprox*	12	
	Ni12U-M18-AN6X2-H1141	M1645155	*Uprox*	12	
	Ni14-M18-AN6X-H1141	T4611410	*Ext. Range*	14	
	Ni 8-M18-AP6X-H1141	T4614700		8	3-Wire DC PNP
	Ni10-EM18WD-AP6X-H1141	M4653419	*Washdown*	10	
	Ni10-M18-AP6X-H1141	T4641291		10	
	Ni12U-EM18-AP6X-H1141	M1645340	*Uprox*	12	
	Ni12U-EM18-AP6X2-H1141	M1645345	*Uprox*	12	
	Ni12U-M18-AP6X-H1141	M1645140	*Uprox*	12	
	Ni12U-M18-AP6X2-H1141	M1645145	*Uprox*	12	
	Ni14-M18-AP6X-H1141	T4611400	*Ext. Range*	14	
	Ni 8-M18-VN4X-H1141	T1571900	*Comp. Outputs*	8	4-Wire DC NPN
	Ni14-M18-VN4X-H1141	T4590603	*Ext. Range*	14	
	Ni 8-M18-VP4X-H1141	T1561900	*Comp. Outputs*	8	4-Wire DC PNP
	Ni14-M18-VP4X-H1141	T4590602	*Ext. Range*	14	
	Ni10-M18-Y1X-H1141	M4015300		10	2-Wire NAMUR
	Ni12U-M18-ASIX-H1140	M1901005	*Uprox*	12	2-Wire ASI-BUS
18 mm - Nonembeddable, *eurofast* connection, Teflon Coated 	Ni12U-MT18-AN6X-H1141	M1645250	*Uprox*	12	3-Wire DC NPN
	Ni12U-MT18-AP6X-H1141	M1645240	*Uprox*	12	3-Wire DC PNP
	Ni12U-MT18-AP6X2-H1141	M1645245	*Uprox*	12	
	Ni12U-MT18H-AP6X-H1141/S1589	M1645292	*weldguard® Uprox*	12	
	Ni12U-MT18H-AP6X2-H1141/S1589	M1645293	*weldguard Uprox*	12	

For detailed sensor specifications see Section M.
Normally Closed versions available upon request, consult factory.

Industrial Automation

TURCK mold-on connectors available on all cable sensors. See page A5.

Industrial Automation

Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Mating Cordset	Wiring Diagram #
10-65 VDC	500	≤100	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.2T-*	1
	500	≤100	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.2T-*/S674	2
	500	≤100	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.2T-*	1
	500	≤100	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.2T-*/S674	2
10-30 VDC	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	3
	500	≤200	-25 to +85	IP 68, IP 69K	SS	PVDF	N/A	YE	RK 4T-*	3
	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	3
	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	3
	2000	≤200	-30 to +85	IP 68	SS	PA 12	N/A	YE	RKV 4T-*	3
	2000	≤200	-30 to +85	IP 68	SS	PA 12	GN	YE	RKV 4T-*	3
	1000	≤200	-30 to +85	IP 68, IP 69K	SS	PVDF	N/A	YE	RK 4T-*	3
	2000	≤200	-30 to +85	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	3
	2000	≤200	-30 to +85	IP 67	CPB	PA 12	GN	YE	RK 4T-*	3
	500	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	3
10-30 VDC	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	4
	500	≤200	-25 to +85	IP 68, 69K	SS	PVDF	N/A	YE	RK 4T-*	4
	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	4
	2000	≤200	-30 to +85	IP 68	SS	PA 12	N/A	YE	RKV 4T-*	4
	2000	≤200	-30 to +85	IP 68	SS	PA 12	GN	YE	RKV 4T-*	4
	2000	≤200	-30 to +85	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	4
	2000	≤200	-30 to +85	IP 67	CPB	PA 12	GN	YE	RK 4T-*	4
	500	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4T-*	4
10-65 VDC	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.4T-*	5
	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.4T-*	5
10-65 VDC	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.4T-*	6
	1000	≤200	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.4T-*	6
5-30 VDC	500	Remote	-25 to +70	IP 67	CPB	PA 12	N/A	YE	RK 4.21T-*	7
18-33 VDC	200	N/A	-30 to +85	IP 68	CPB	PA 12	N/A	YE	RKC 254-*M	8
10-30 VDC	2000	≤200	-30 to +85	IP 67	TC	TC	N/A	YE	RK 4T-*	3
10-30 VDC	2000	≤200	-30 to +85	IP 67	TC	TC	N/A	YE	RK 4T-*	4
	2000	≤200	-30 to +85	IP 67	TC	TC	GN	YE	RK 4T-*	4
	2000	≤200	-30 to +85	IP 67	TC	WG	N/A	YE	RKG 4T-*/S600	4
	2000	≤200	-30 to +85	IP 67	TC	WG	GN	YE	RKG 4T-*/S600	4

Wiring Diagrams

Diagram 1

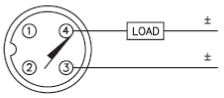


Diagram 2

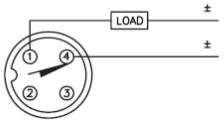


Diagram 3

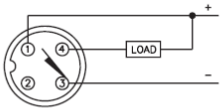


Diagram 4

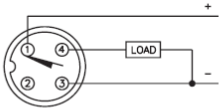


Diagram 5

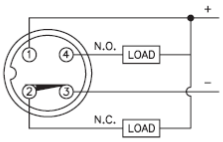


Diagram 6

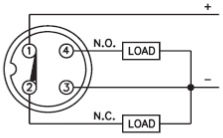


Diagram 7

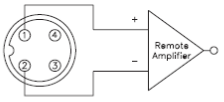
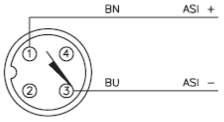


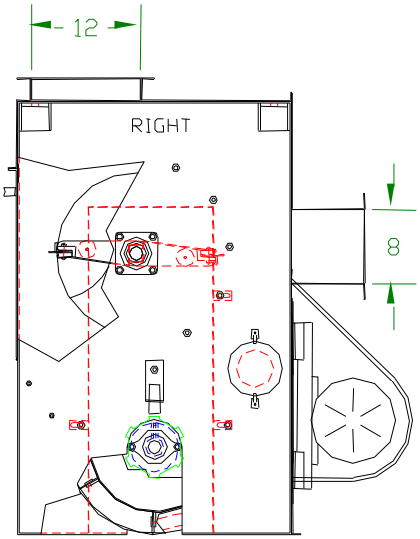
Diagram 8

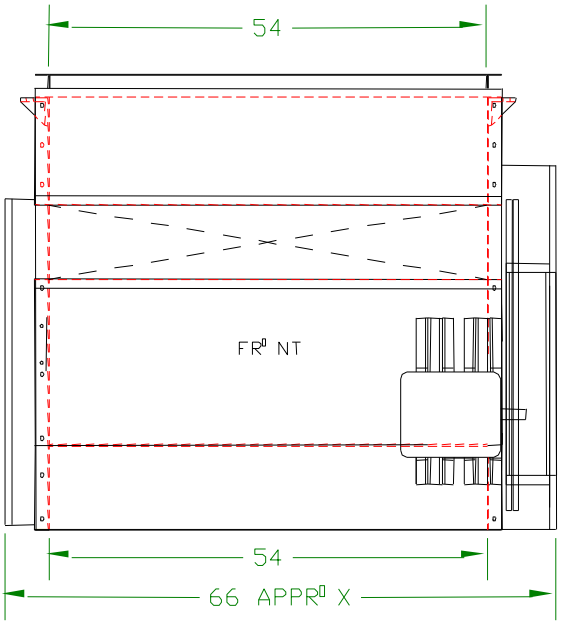


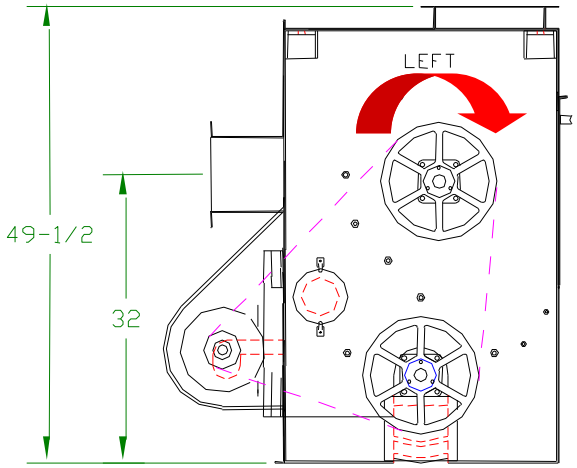
* Length in meters.

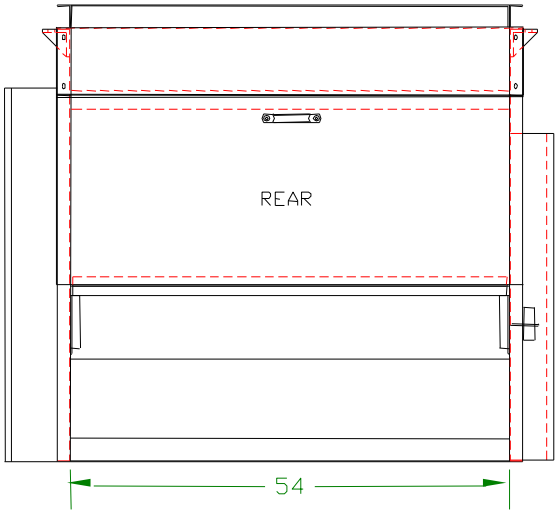
For material descriptions see page M22.

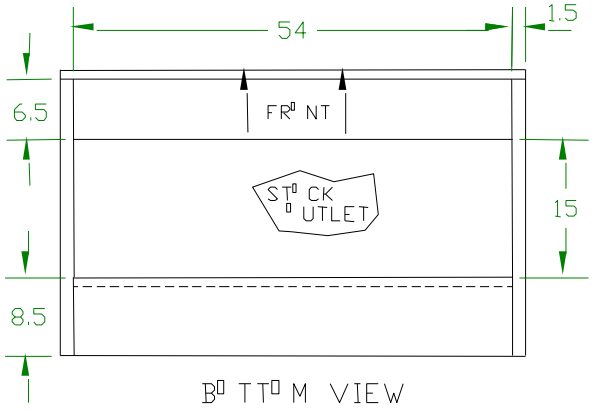
GENERAL DIMENSIONS











NOTES

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