

Field Manual
Sub Zero/Freezer/Cold Room
Application Guidelines and Specifications



To contact Intelligrated:
For service: Customer Service and Support (CSS)
Hotline 1-877-315-3400
On the World Wide Web: www.intelligrated.com

By mail:

Intelligrated
7901 Innovation Way
Mason, OH 45040

(513) 701-7300

Read these documents thoroughly before attempting to perform maintenance or repairs to the applicable Intelligrated conveyor system components or devices. Exercise extreme caution when working around moving and rotating conveyor equipment. Wear the proper clothing and safety equipment. DO NOT attempt to perform any maintenance until the equipment is de-energized, locked out and tagged out in accordance with established company procedures.

The information presented in these documents are correct at the time of publication. Intelligrated has made every effort to ensure that the information presented is correct and free from error. However, some errors or misprints may occur. Please contact Intelligrated with any corrections.

This document is copyrighted © 2010 by Intelligrated, all rights reserved. No Part of this manual may be reproduced and/or distributed to parties other than the customer and the customer's employees for whom it was originally produced.

The following terms are trademarks™ of Intelligrated; Accuglide™, BOSS™ UniSort™, EZ-set™. The following terms are registered trademarks® of Intelligrated; Accuzone®, UniSort®, E-Z Set®. Intelligrated® is a registered trademark.

Direct questions and comments concerning the information contained in this manual to:

Documentation Department
Intelligrated
7901 Innovation Way
Mason, OH 45040

Ph (513) 701-7300
Fax (513) 701-7349

customerservice@intelligrated.com

Section A Application Guidelines

Application Guide Lines ----- A - 1

 Air Supply System ----- A - 1

 Compressor ----- A - 1

 After Cooler ----- A - 1

 Regenerative Dryer ----- A - 1

 Pre and After Filters ----- A - 1

 Dew Point Sensor ----- A - 1

 Air Tanks ----- A - 1

 Solenoid Valves ----- A - 1

 Filter/Regulators/Gauges ----- A - 1

 Notes: ----- A - 2

Section B Sub-Zero Freezer Application Guidelines (-20° to 0°F)

Introduction ----- B - 1

General Applications ----- B - 1

Standard and Non-Standard Conveyor Components ----- B - 3

 A/C200Q and A/C250Q Acculation Conveyors ----- B - 3

 T/C250 Transportation Conveyor ----- B - 4

 Picking Belt Conveyors ----- B - 5

 Transportation Belt Conveyors ----- B - 6

 E-Z Set ----- B - 7

 Gravity Wheel/Roller ----- B - 8

Section C Freezer Application Guidelines (0° to +20°F)

Introduction ----- C - 1

General Applications ----- C - 1

Standard and Non-Standard Conveyor Components ----- C - 3

 A/C200Q and A/C250Q Accumulation Conveyor ----- C - 3

 T/C250 Transportation Conveyor ----- C - 4

 Picking Belt Conveyors ----- C - 5

 Transportation Belt Conveyors ----- C - 6

 E-Z Set ----- C - 7

 Gravity Wheel/Roller ----- C - 8

Section D Dairy/Deli/Cold Room (+20° to +40°F)

Introduction ----- D - 1

General Applications ----- D - 1

Standard and Non-Standard Conveyor Components ----- D - 2

 A/C200Q and A/C250Q Accumulation Conveyor ----- D - 2

 Accuglide Plus Conveyor ----- D - 3

 T/C250 Transportation Conveyor ----- D - 4

 V-Belt Conveyor ----- D - 5

 Picking Belt Conveyor ----- D - 6

 Transportation Belt Conveyor ----- D - 7

 E-Z Set ----- D - 8

 Gravity Wheel/Roller ----- D - 9

 UniSort IV Conveyors ----- D - 10

SECTION A: APPLICATION GUIDELINES

Application Guide Lines

Air Supply System

Compressed air used in -20°F sub-zero freezer applications must be clean and dry (-40°F Pressure Dew Point). Compressor systems for such applications should be a "single-source" to ensure system responsibility from the supplier. In laying out the system, be sure to locate the compressed air system OUTSIDE of the freezer room.

Compressor

Must be sized to include an additional 20% capacity over the conveyor system's maximum requirements. This is to provide "purge air" for the dryer equipment.

After Cooler

Removes most of the moisture. Unit must be sized to the compressor(s) and must include a "separator" and "automatic drain".

Regenerative Dryer

Twin Tower regenerative dryer will be rated at "-40°F Pressure Dew Point". Unit must be sized to the compressor(s); requires approximately 20% "purge air"; must include a "failure to shift" alarm.

Pre and After Filters

Prevents oil contamination of "regenerative dryer media". Units to be sized for the system. Pre-filter requires an automatic drain and the after-filter does not require an automatic drain.

Dew Point Sensor

This component is required to shutdown the system if moisture is detected in the system.

Air Tanks

All commonly used brands must be special ordered for -20°F service.

Solenoid Valves

Most commonly used brands of solenoid valves are available with model suitable for -20°F service. These units must be special order for such service. Solenoid enclosures must be NEMA 4 (water tight) when located within 20 feet of any openings, i.e., doorways, where "frost" can occur.

Filter/Regulators/Gauges

All presently used brands of these components are suitable for -20°F service.

Notes:

1. A solenoid valve is installed on the main header line prior to entering the freezer room. When the freezer conveyor system is started, the solenoid valve is closed. The valve will not permit air supply to the air operated equipment. This will allow break-in time for motor oil, stiff chains, and bearing grease. After a predetermined time, the valve will open and supply air to the air operated equipment.
2. Air Consumption (Free Air)
 - A/C - Figure 0.001 cubic feet per foot times total footage times rate (case per minute).
 - AG - Figure 0.001 cubic feet per foot times total footage times rate (case per minute).
 - UniSort IV - Figure 0.0164 cubic feet per divert times rate (diverts per minute).
 - UniSort V - Single side 0.003 cubic feet per divert times rate (diverts per minute).
 - UniSort VI - Figure 0.0164 cubic feet per divert times rate (diverts per minute).
 - UniSort X -
 - Dual side shoes down center 0.003 cubic feet per divert times rate (diverts per minute).
 - Dual side crossover 0.0264 cubic feet per divert times rate (diverts per minute).
 - Combiners - Consult factory.

SECTION B: SUB-ZERO FREEZER APPLICATION GUIDELINES (-20° TO 0°F)**Introduction**

The "Sub-Zero Freezer Application Guidelines" covers all aspects of conveyor equipment installed in an environment where the temperatures range from -20°F to 0°F. These guidelines will replace the previous guidelines of November 2, 1992.

Please take time to review these pages to familiarize yourself on the special items required for sub-zero freezer applications.

General Applications

The following guidelines are for applications of CSPS powered and gravity conveyor in sub-zero freezer rooms where temperatures range from -20°F to 0°F.

1. "Sub-Zero Freezer" systems with "low" temperatures that fall below -20°F will not be quoted without authorization from the Buschman Risk Committee.
2. Conveyors located within a 10'-0" radius of a freezer opening must comply with the following:
 - a. Drive/power units may not be located within the 10 foot radius.
 - b. Freezer type rollers (with plated axles) must be substituted for the standard freezer rollers (within the 10 foot radius).
 - c. A conveyor line that runs through the opening must be broken into two separate conveyors (at the opening). A gap must be provided between the metal components of the two conveyors to prevent the conduction of heat into the freezer.
3. The conveyor's effective pull (calculated from the standard pricing program) must be multiplied by a 1.25 factor before determining the horsepower requirement.
4. Reducers have "low-temperature" lubricant.
5. Belt Conveyors
 - a. Inclined conveyors are limited to a maximum angle of 15°.
 - b. All power feeders to have 6.00" dia feeder pulleys. (std)
 - c. Do not extend standard length of power feeders (4'-0" lg).
 - d. Do no use Series 400 drive units.
 - e. Standard width are 16", 22", 28" widths.
6. A/C Conveyors
 - a. Use the following rates (case feet per minute) for:
 - Singulation Release - 50%
 - Auto-Slug Release - 70%
 - Slug Release - 90%
 - b. Do not use A/C150Q, or A/C300Q conveyors.
 - c. Use auto-slug release on "pre-merge" conveyors.
 - d. Do not use intermediate skew sections.
 - e. Standard widths are 16", 22", and 28" widths.

7. T/C Conveyors
 - a. Standard width are 16", 22", and 28" widths.
8. Accuglide Plus Conveyors
 - a. NOT RECOMMENDED FOR USE IN THIS APPLICATION.
9. V-Belt Conveyors
 - a. NOT RECOMMENDED FOR USE IN THIS APPLICATION.
10. UniSort IV, VI
 - a. NOT RECOMMENDED FOR USE IN THIS APPLICATION.
11. UniSort V, X, Combiners
 - a. Consult factory.

Standard and Non-Standard Conveyor Components

The following charts are designed for each product line to illustrate the standard and non-standard conveyor components supplied for the freezer application.

A/C200Q and A/C250Q Acculation Conveyors

A/C200Q AND A/C250Q ACCUMULATION CONVEYOR	
INTERMEDIATE BED	
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED AND NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW TEMP. GREASE.
CHAIN	RC-40 (STANDARD)
CLUTCH / ACTUATOR	BLUE DRIVE WHEEL -20°F TO 0°F (10-TOOTH) BLUE DIAPHRAGMS -20°F TO 0°F ALL OTHER ITEMS STANDARD
SENSOR	STANDARD AIR VALVE AND TUBING
PLASTIC TUBING	STANDARD TUBING W/HOSE CLAMPS MUST BE USED ON ¼" LINE AT CONNECTION TO THE MOLDED DIAPHRAGM ACTUATORS, NOT REQUIRED ON BARBED FITTINGS
DRIVE UNIT	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD (FLANGE UNITS)
SHAFTS	STANDARD (NON-PLATED)
TAKE-UP/END IDLER	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD
SHAFTS	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUB (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD, EXCEPT FOR SIZING AT (E.P. X 1.25) AND FOR SPECIAL LOW-TEMP REDUCER LUBRICANT

CSPS ACCESSORIES CODE: INPUT "SUB"

ROLLER: INPUT "G196FZ"

SERIES: INPUT "24" OR "30"

T/C250 Transportation Conveyor

T/C250 TRANSPORTATION CONVEYOR	
INTERMEDIATE BED	
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED WITH NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW TEMP. GREASE
CHAIN	RC-40 (STANDARD)
DRIVE WHEEL	BLUE DRIVE WHEEL -20°F TO 0°F (14-TOOTH) ALL OTHER ITEMS STANDARD
DRIVE UNIT	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD (FLANGE UNITS)
SHAFTS	STANDARD (NON-PLATED)
TAKE-UP/END IDLER	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD
SHAFTS	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUB (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD, EXCEPT FOR SIZING AT (E.P. X 1.25) AND LOW-TEMPERATURE REDUCER LUBRICANT

CSPS ACCESSORIES CODE: INPUT "SUB"
ROLLER: INPUT "G196FZ"

Picking Belt Conveyors

PICKING BELT CONVEYORS	
INTERMEDIATE SLIDER BED	
BELTING	PVK-125 SUPER COLD DUCK FS X BRUSHED STAINLESS STEEL LACING
FRAME	BCS - RAILS (STANDARD PAINT) WITH GALVANIZED SLIDER PAN INSERT BCB - STANDARD GALVANIZED BCR - STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED WITH NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW-TEMPERATURE GREASE
DRIVE UNIT	
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEY WITH SHAFT	STANDARD EXCEPT PULLEY LAGGING TO BE SPECIAL GUM RUBBER TOP SURFACE; SHAFT NON-PLATED
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS/TAKE-UPS	
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD (FLANGE UNITS)
SHAFTS	STANDARD (NON-PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD EXCEPT FOR SIZING AT (E.P. X 1.25) AND LOW-TEMPERATURE REDUCER LUBRICANT

Transportation Belt Conveyors

TRANSPORTATION BELT CONVEYORS	
INTERMEDIATE BED	
BELTING	HORIZONTAL PVK-125 SUPER COLD DUCK FS X BRUSHED STAINLESS STEEL LACING INCLINED/DECLINED ANCHOR GUM 2 STAINLESS STEEL LACING
FRAME	BCS - RAILS - STANDARD PAINT; STANDARD BED - GALVANIZED SLIDER PAN INSERT BCB - STANDARD GALVANIZED BCR - STANDARD PAINT
ROLLERS	G196 WITH GALVANIZED AND NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW-TEMPERATURE GREASE
DRIVE UNIT	
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEY WITH SHAFT	STANDARD EXCEPT PULLEY LAGGING TO BE SPECIAL GUM RUBBER TOP SURFACE; SHAFTS NON-PLATED SERIES MINIMUM 600 SERIES
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS/TAKEUPS	
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD
SHAFTS	STANDARD (NON-PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD EXCEPT FOR SIZING AT (E.P. X 1.25) AND LOW-TEMPERA- TURE REDUCER LUBRICANT

CSPS ACCESSORIES CODE: INPUT "SUB"
ROLLER: INPUT "G196FZ"

E-Z Set

E-Z SET	
INTERMEDIATE BED	
BELTING	PVG-125 SUPER COLD DUCK FS X FS STAINLESS STEEL CLIPPER LACING
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED AND NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW-TEMPERATURE GREASE
DRIVE UNIT	
FRAME	STANDARD PAINT
PULLEY WITH SHAFT	STANDARD EXCEPT PULLEY LAGGING TO BE SPECIAL GUM RUBBER TOP SURFACE; SHAFTS NON-PLATED SERIES MINIMUM SIZE 600 SERIES
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS	
FRAME	STANDARD PAINT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD
SHAFTS	STANDARD (NON-PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD EXCEPT FOR SIZING AT (E.P. X 1.25) AND LOW-TEMPERATURE REDUCER LUBRICANT

CSPS ACCESSORIES CODE: INPUT "SUB"
 ROLLER: INPUT "G196FZ"

Gravity Wheel/Roller

GRAVITY WHEEL/ROLLER	
INTERMEDIATE BED ROLLERS	
FRAMES	STANDARD PAINT
ROLLERS	G196K7 WITH TUBING GALVANIZED
BEARINGS	190-K7 PLAIN BEARINGS ONLY
SHAFTS	STANDARD (NON-PLATED)
INTERMEDIATE BED WHEELS	
FRAMES	STANDARD PAINT
WHEELS	EITHER STANDARD #100 OR #28 ZINC PLATED PLAIN BEARINGS ONLY
SHAFTS	STANDARD ¼" DIAMETER ZINC PLATED

SECTION C: FREEZER APPLICATION GUIDELINES (0° TO +20°F)

Introduction

The "Freezer Application Guidelines" cover all aspects of conveyor equipment installed in an environment where the temperatures range from 0°F to +20°F. These guidelines will replace the previous guidelines of November 2, 1992.

Please take time to review these pages to familiarize yourself on the special items required for freezer applications.

General Applications

The following guidelines are for applications of powered and gravity conveyor in freezer rooms where temperatures range from 0°F to +20°F.

1. Conveyors located within a 10'-0" radius of a freezer opening must comply with the following:
 - a. Drive/power units may not be located within the 10 foot radius.
 - b. Freezer type rollers (with plated axles) must be substituted for the standard freezer rollers (within the 10 foot radius).
 - c. A conveyor line that runs through the opening must be broken into two separate conveyors (at the opening). A gap must be provided between the metal components of the two conveyors to prevent the conduction of heat into the freezer.
2. The conveyor's effective pull (calculated from the standard pricing program) must be multiplied by a 1.25 factor before determining the horsepower requirement.
3. Reducers must have low-temperature lubricant.
4. Belt Conveyors
 - a. Inclined conveyors are limited to a maximum angle of 15°.
 - b. All power feeders to have 6.00" dia. Feeder pulleys. Standard 4'0" long.
 - c. Do not extend standard length of power feeders.
 - d. Do not use Series 400 drive units.
 - e. Standard widths are 16", 22", and 28" width.
5. A/C Conveyors
 - a. Use the following flow rates (case feet per minute) for
 - Singulation Release - 50%
 - Auto-Slug Release - 70%
 - Slug Release - 90%
 - b. Use auto-slug release on "pre-merge" conveyors.
 - c. Do not use intermediate skew sections.
 - d. Standard widths are 16", 22", and 28" width.
6. T/C Conveyors
 - a. Standard widths are 16", 22", and 28" width.
7. Accuglide Plus Conveyors
 - a. NOT RECOMMENDED FOR USE IN THIS APPLICATION
8. V-Belt Conveyors
 - a. NOT RECOMMENDED FOR USE IN THIS APPLICATION

9. UniSort IV, VI
 - a. NOT RECOMMENDED FOR USE IN THIS APPLICATION.
10. UniSort V, X Combiner
 - a. Consult factory.

Standard and Non-Standard Conveyor Components

The following charts are designed for each product line to illustrate the standard and non-standard conveyor components supplied for the freezer application.

A/C200Q and A/C250Q Accumulation Conveyor

A/C200Q OR A/C250Q ACCUMULATION CONVEYOR	
INTERMEDIATE BED	
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED AND NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW TEMP. GREASE
CHAIN	RC-40 (STANDARD)
CLUTCH	AMBER DRIVE WHEEL 0°F TO +20°F (10-TOOTH) AMBER DIAPHRAGMS 0°F TO +20°F ALL OTHER ITEMS STANDARD
SENSOR	STANDARD AIR VALVE AND TUBING
PLASTIC TUBING	STANDARD TUBING WITH HOSE CLAMPS MUST BE USED ON ¼" LINE AT CONNECTION TO THE MOLDED DIAPHRAGM ACTUATORS, NOT REQUIRED ON BARBED FITTINGS
DRIVE UNIT	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD (FLANGE UNITS)
SHAFTS	STANDARD (NON-PLATED)
TAKE-UP/END IDLER	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD
SHAFTS	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUB (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD, EXCEPT FOR SIZING AT (E.P. X 1.25) AND FOR SPECIAL LOW-TEMP REDUCER LUBRICANT

CSPS ACCESSORIES CODE: INPUT "FRZ"

ROLLER: INPUT "G196FZ"

SERIES: INPUT "24" OR "30"

T/C250 Transportation Conveyor

T/C250 TRANSPORTATION CONVEYOR	
INTERMEDIATE BED	
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED WITH NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW TEMPERATURE GREASE
CHAIN	RC-40 (STANDARD)
DRIVE WHEEL	AMBER DRIVE WHEEL 0°F TO +20°F (14-TOOTH) ALL OTHER ITEMS STANDARD
DRIVE UNIT	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD (FLANGE UNITS)
SHAFTS	STANDARD (NON-PLATED)
TAKE-UP/END IDLER	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD
SHAFTS	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUB (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD, EXCEPT FOR SIZING AT (E.P. X 1.25) AND LOW TEMPERATURE REDUCER LUBRICANT.

CSPS ACCESSORIES CODE: INPUT "FRZ"
 ROLLER: INPUT "G196FZ"

Picking Belt Conveyors

PICKING BELT CONVEYORS	
INTERMEDIATE SLIDER BED	
BELTING	PVK-125 SUPER COLD DUCK FS X BRUSHED STAINLESS STEEL LACING
FRAME	BCS - RAILS (STANDARD PAINT) WITH GALVANIZED SLIDER PAN INSERT BCB - STANDARD GALVANIZED BCR - STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED WITH NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW TEMPERATURE GREASE
DRIVE UNIT	
SERIES	MINIMUM DRIVE SERIES 1000
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEY WITH SHAFT	STANDARD EXCEPT PULLEY LAGGING TO BE SPECIAL GUM RUBBER TOP SURFACE; SHAFT NON-PLATED
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS/TAKE-UPS	
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD (FLANGE UNITS) OR (INTERNAL)
SHAFTS	STANDARD (NON-PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD EXCEPT FOR SIZING AT (E.P. X 1.25) AND LOW TEMPERATURE REDUCER LUBRICANT.

Transportation Belt Conveyors

TRANSPORTATION BELT CONVEYORS	
INTERMEDIATE BED	
BELTING	HORIZONTAL PVK-125 SUPER COLD DUCK FS X BRUSHED
	STAINLESS STEEL LACING
	INCLINED/DECLINED ANCHOR GUM 2
	STAINLESS STEEL LACING
FRAME	BCS - RAILS (STANDARD PAINT) WITH GALVANIZED SLIDER PAN INSERT
	BCB - STANDARD GALVANIZED
	BCR - STANDARD PAINT
ROLLERS	G196 WITH GALVANIZED AND NON-PLATED AXLES 3502-FZ BEARINGS (UP TO 240 FPM) LOW TEMPERATURE GREASE
DRIVE UNIT	
SERIES	MINIMUM DRIVE SERIES 1000
FRAME	STANDARD PAINT
PULLEY WITH SHAFT	STANDARD EXCEPT PULLEY LAGGING TO BE SPECIAL GUM RUBBER TOP SURFACE; SHAFTS NON-PLATED
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS/TAKE-UPS	
FRAME	STANDARD PAINT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD (FLANGE UNITS) OR (INTERNAL)
SHAFTS	STANDARD (NON-PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD EXCEPT FOR SIZING AT (E.P. X 1.25) AND LOW TEMPERATURE REDUCER LUBRICANT

CSPS ACCESSORIES CODE: INPUT "FRZ"
ROLLER: INPUT "G196FZ"

E-Z Set

E-Z SET	
INTERMEDIATE BED	
BELTING	PVK-125 SUPER COLD DUCK FS X FS
	STAINLESS STEEL CLIPPER LACING
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED AND NON-PLATED AXLES
	3502-FZ BEARINGS (UP TO 240 FPM) LOW TEMPERATURE GREASE
DRIVE UNIT	
SERIES	MINIMUM DRIVE SERIES 1000
FRAME	STANDARD PAINT
PULLEY WITH SHAFT	STANDARD EXCEPT PULLEY LAGGING TO BE SPECIAL GUM RUBBER TOP SURFACE; SHAFTS NON-PLATED
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS	
FRAME	STANDARD PAINT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD
SHAFTS	STANDARD (NON-PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (NON-PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD EXCEPT FOR SIZING AT (E.P. X 1.25) AND LOW TEMPERATURE REDUCER LUBRICANT

CSPS ACCESSORIES CODE: INPUT "FRZ"
 ROLLER: INPUT "G196FZ"

Gravity Wheel/Roller

GRAVITY WHEEL/ROLLER	
INTERMEDIATE BED ROLLERS	
FRAMES	STANDARD PAINT
ROLLERS	G196K7 WITH TUBING GALVANIZED
BEARINGS	190-K7 PLAIN BEARINGS ONLY
SHAFTS	STANDARD (NON-PLATED)
INTERMEDIATE BED WHEELS	
FRAMES	STANDARD PAINT
WHEELS	EITHER STANDARD #100 OR #28 ZINC PLATED PLAIN BEARINGS ONLY
SHAFTS	STANDARD ¼" DIAMETER ZINC PLATED

SECTION D: DAIRY/DELI/COLD ROOM (+20° TO +40°F)**Introduction**

The Dairy/Deli/Cold Room application guidelines cover all aspects of the conveyor equipment installed in an environment where the temperatures range from +20°F to +40°F. Exception to this temperature range - V/Belt conveyor is not recommended for use below +30°F. These guidelines will replace the previous guidelines of November 2, 1992.

Please take time to review these pages to familiarize yourself on the special items required for Dairy/Deli/Cold Room applications.

General Applications

The following guidelines are for applications of CSPS powered and gravity conveyor in Dairy/Deli/Cold Rooms where temperatures range from +20°F to +40°F.

1. All non-painted metal parts are zinc plated to prevent rust. This includes roller axles, idler and take-up roller axles, and fasteners. Pulleys, sprockets and chains do not apply.
2. Belt Conveyors
 - a. Inclined conveyors are limited to a maximum angle of 15°.
 - b. Standard widths are 16", 22" and 28" width.
3. A/C Conveyors
 - a. Use the following flow rates (case feet per minute) for:
 - Singulation Release - 50%
 - Auto-Slug Release - 70%
 - Slug Release - 90%
 - b. Use auto-slug release on "pre-merge" conveyors.
 - c. Do not use intermediate skew sections.
 - d. Standard widths are 16", 22" and 28" width.
4. T/C Conveyors
 - a. Standard widths are 16", 22" and 28" width.
5. Accuglide Plus Conveyors
 - a. Use case flow rates as shown in CS8400, Tables B.5, B.6 and B.7
 - b. Use auto-slug release on "pre-merge" conveyors.
 - c. Standard widths are 16", 22" and 28" width.
6. V-Belt Conveyors
 - a. Standard widths are 16", 22" and 28" width.
 - b. NOT RECOMMENDED FOR USE BELOW +30°F.
7. UniSort IV, VI
 - a. Consult factory. Certain limitations listed on product detail sheet.
 - b. Pull requirements increase considerably as temperature goes down.
 - c. Effective divert angle of 30° due to product slippage on divert wheel.
 - d. Carton spacing increases due to reduced divert angle.
8. UniSort V, X, Combiners
 - a. Consult factory.

Standard and Non-Standard Conveyor Components

The following charts are designed for each product line to illustrate the standard and non-standard conveyor components supplied for the Dairy/Deli/Cold Room application.

A/C200Q and A/C250Q Accumulation Conveyor

A/C200Q OR A/C250Q ACCUMULATION CONVEYOR	
INTERMEDIATE BED	
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED AND PLATED AXLES
	STANDARD GH OR AB BEARINGS
CHAIN	RC-40 (STANDARD)
CLUTCH	AMBER DRIVE WHEEL +20°F TO +40°F (10 TOOTH)
	AMBER DIAPHRAGMS +20°F TO +40°F
	ALL OTHER ITEMS STANDARD
SENSOR	STANDARD AIR VALVE AND TUBING
PLASTIC TUBING	STANDARD TUBING WITH HOSE CLAMPS MUST BE USED ON ¼" LINE AT CONNECTION TO THE MOLDED DIAPHRAGM ACTUATORS, NOT REQUIRED ON BARBED FITTINGS
DRIVE UNIT	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD (FLANGE UNITS)
SHAFTS	STANDARD (PLATED)
TAKE-UP/END IDLER	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD
SHAFTS	STANDARD (PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUB (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD

CSPS ACCESSORIES CODE: INPUT "COR"
 ROLLER: INPUT "G196GH" OR "G196AB"
 SERIES: INPUT "24" OR "30"

Accuglide Plus Conveyor

ACCUGLIDE PLUS CONVEYOR	
INTERMEDIATE BED	
FRAME	STANDARD PAINT
ROLLERS	G196 WITH GALVANIZED TUBING AND PLATED AXLES
	STANDARD GH OR AB BEARINGS
CHAIN	RC-50 STD
DRIVER PAD	STANDARD URETHANE DRIVER PAD, P/N 000058
ACTUATORS	ALL ITEMS STANDARD
SENSOR	STANDARD AIR VALVE AND TUBING
PLASTIC TUBING	STANDARD TUBING WITH HOSE CLAMPS MUST BE USED ON ¼" LINE AT CONNECTION TO THE MOLDED DIAPHRAGM ACTUATORS, NOT REQUIRED ON BARBED FITTINGS
DRIVE UNIT	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD (FLANGE UNITS)
SHAFTS	NON-STANDARD (SIDE MOUNT DRIVES, ONLY)
TAKE-UP/END IDLER	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD
SHAFTS	PLATED (STANDARD LENGTH)
POWER UNIT DRIVE	
SPROCKETS	STANDARD
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD

CSPS ACCESSORIES CODE: NONE, ROLLER: INPUT "G196GH" OR "G196AB"
 SERIES: LEAVE BLANK OR N/A

WARM-UP: RUN CONVEYOR FOR A MINIMUM OF 5 MINUTES BEFORE ACTUAL OPERATION BEGINS.

CHAIN PULL INCREASE: TEMP 40° 35° 30° 25° 20°

NO LOAD/START-UP FACTOR 1 20% 30% 40% 50% 60%

FULL LOAD FACTOR 2 5% 10% 15% 20% 20%

USE LARGER PULL FOR NO-LOAD x FACTOR & FULL LOAD x FACTOR.

T/C250 Transportation Conveyor

T/C 250 TRANSPORTATION CONVEYOR	
INTERMEDIATE BED	
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED WITH PLATED AXLES
	STANDARD GH OR AB BEARINGS
CHAIN	RC-40 (STANDARD)
DRIVE WHEEL	AMBER DRIVE WHEEL +20°F TO +40°F (14-TOOTH)
	ALL OTHER ITEMS STANDARD
DRIVE UNIT	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD (FLANGE UNITS)
SHAFTS	STANDARD (PLATED)
TAKE-UP /END IDLER	
FRAME	STANDARD PAINT
SPROCKETS	STANDARD (INTERNAL)
BEARINGS	STANDARD
SHAFTS	STANDARD (PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUB (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD

CSPS ACCESSORIES CODE: INPUT "COR"

ROLLER: INPUT "G196GH" OR "G196AB"

V-Belt Conveyor

V-BELT CONVEYOR	
INTERMEDIATE BED	
FRAME	STANDARD PAINT
ROLLERS	G196 WITH GALVANIZED TUBING AND PLATED AXLES
	STANDARD GH OR AB BEARINGS
V-BELT	STANDARD
IDLER SHEAVES	ALL ITEMS STANDARD
DRIVE UNIT	
FRAME	STANDARD PAINT
SHEAVES	STANDARD (INTERNAL)
BEARINGS	STANDARD (FLANGE UNITS, UH ONLY)
SHAFTS	PLATED (UH ONLY)
TAKE-UP/END IDLER	
FRAME	STANDARD PAINT
IDLER SHEAVES	STANDARD (INTERNAL)
BEARINGS	STANDARD
SHAFTS	PLATED (STANDARD LENGTH)
POWER UNIT DRIVE	
SPROCKETS	STANDARD (TIMING BELT)
BELT	STANDARD (TIMING BELT)
MOTOR/REDUCERS	STANDARD

CSPS ACCESSORIES CODE: NONE

ROLLER: INPUT "G196GH" OR "G196AB"

SERIES: LEAVE BLANK OR N / A

WARM-UP: RUN CONVEYOR FOR A MINIMUM OF 5 MINUTES BEFORE ACTUAL OPERATION BEGINS.

BELT PULL INCREASE: TEMP 40° 35° 30°

NO LOAD/START-UP FACTOR 1: 40% 45% 50%

FULL LOAD FACTOR 2: 15% 15% 15%

USE LARGER PULL FOR NO-LOAD x FACTOR 1 & FULL LOAD x FACTOR 2.

Picking Belt Conveyor

PICKING BELT CONVEYORS	
INTERMEDIATE SLIDER BED	
BELTING	PVK-125 FS X BRUSHED STAINLESS STEEL LACING
FRAME	BCS - RAILS (STANDARD PAINT) WITH GALVANIZED PAN INSERT
	BCB - STANDARD GALVANIZED
	BCR - STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED WITH PLATED AXLES
	STANDARD GH OR AB BEARINGS
DRIVE UNIT	
SERIES	MINIMUM DRIVE SERIES 1000
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEY WITH SHAFT	STANDARD PULLEY LAGGING WELDED PULLEY WITH STAINLESS STEEL SHAFT
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS/TAKE-UPS	
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD (FLANGE UNITS) OR (INTERNAL)
SHAFTS	STANDARD (PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD

Transportation Belt Conveyor

TRANSPORTATION BELT CONVEYORS	
INTERMEDIATE BED	
BELTING	HORIZONTAL PVK-90 FS X BRUSHED
	STAINLESS STEEL LACING
	INCLINED/DECLINED PVK-90 TT X BRUSHED
	STAINLESS STEEL LACING
FRAME	BCS - RAILS - (STANDARD PAINT) WITH GALVANIZED SLIDER PAN INSERT
	BCB - STANDARD GALVANIZED
	BCR - STANDARD PAINT
ROLLERS	G196 WITH GALVANIZED AND PLATED AXLES
	STANDARD GH OR AB BEARING
DRIVE UNIT	
SERIES	MINIMUM DRIVER SERIES 600
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEY WITH SHAFT	STANDARD PULLEY LAGGING WELDED PULLEY WITH STAINLESS STEEL SHAFT
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS/TAKE-UPS	
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD (FLANGE UNITS) OR (INTERNAL)
SHAFTS	STANDARD (PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD

CSPS ACCESSORIES CODE: INPUT "COR"
 ROLLER: INPUT "G196GH" OR "G196AB"

E-Z Set

E-Z SET	
INTERMEDIATE BED	
BELTING	PVK-125 FS X FS
	STAINLESS STEEL CLIPPER LACING
FRAME	STANDARD PAINT
ROLLERS	G196 WITH TUBING GALVANIZED AND PLATED AXLES
	STANDARD GH OR AB BEARINGS
DRIVE UNIT	
FRAME	STANDARD PAINT
PULLEY WITH SHAFT	STANDARD PULLEY LAGGING WELDED PULLEY WITH STAINLESS STEEL SHAFT
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS/TAKE-UPS	
FRAME	STANDARD PAINT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD (FLANGE UNITS) OR (INTERNAL)
SHAFTS	STANDARD (PLATED)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	STANDARD (PLATED)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUBS (STANDARD)
CHAIN	STANDARD
MOTOR/REDUCERS	STANDARD

CSPS ACCESSORIES CODE: INPUT "COR"
 ROLLER: INPUT "G196GH" OR "G196AB"

Gravity Wheel/Roller

GRAVITY WHEEL/ROLLER	
INTERMEDIATE BED ROLLERS	
FRAMES	STANDARD PAINT
ROLLERS	G196K7 WITH TUBING GALVANIZED
BEARINGS	1990-K7 PLAIN BEARINGS ONLY
SHAFTS	STANDARD (PLATED)
INTERMEDIATE BED WHEELS	
FRAMES	STANDARD PAINT
WHEELS	EITHER STANDARD #100 OR #28 ZINC PLATED PLAIN BEARINGS ONLY
SHAFTS	STANDARD ¼" DIAMETER ZINC PLATED

UniSort IV Conveyors

UNISORT IV CONVEYORS	
INTERMEDIATE BED	
BELTING	GLOBE TRACKMATE529 FBS, 120PIW
	STAINLESS STEEL LACING
FRAME	PBR - STANDARD PAINT
ROLLERS	G196 WITH GALVANIZED AND PLATED AXLES
	STANDARD GH OR AB BEARING
DRIVE UNIT	
SERIES	MINIMUM DRIVE SERIES 800
FRAME	STANDARD PAINT
PULLEY WITH SHAFT	STANDARD PULLEY LAGGING, WELDED PULLEY WITH STAINLESS STEEL SHAFT
BEARINGS	STANDARD (FLANGE UNITS)
END IDLERS/TAKE-UPS	
FRAME	STANDARD PAINT WITH GALVANIZED PAN INSERT
PULLEYS	STANDARD (NON-PLATED)
BEARINGS	STANDARD (FLANGE UNITS) OR (INTERNAL)
SHAFTS	PLATED (STANDARD LENGTH)
SNUB ROLLERS	
ROLLERS	STANDARD G251AB
BEARINGS	STANDARD (INTERNAL)
AXLES	PLATED (STANDARD LENGTH & NICKING)
POWER UNIT DRIVE	
SPROCKETS	HARDENED TEETH AND TAPER LOCK HUB (STANDARD)
CHAIN	STANDARD HS
MOTOR/REDUCERS	STANDARD
DIVERTERS	
ROLLERS	STANDARD WITH PLATED AXLES
	SOLID PULLEY PLATED
BEARINGS	STANDARD (INTERNAL)
AXLES	PLATED (STANDARD LENGTH & NICKING)
DIVERT WHEELS	STANDARD BEARINGS, ROUGH-SURFACE O-RING
O-RINGS	ROUGH-SURFACE/LOW TEMP MATERIAL

UNISORT IV CONVEYORS (Continued)	
OPTIONS:	AUXILLIARY AIR TAKE-UP RECOMMENDED
DIVERT SPUR:	USE 30° SPUR OR 90° SPUR-CURVE (STYLE 21P)

CARTON SPACING: 21" MINIMUM (INSTEAD OF 18")
 WARM-UP: RUN SORTER A MIN. OF 15 MINUTES BEFORE DIVERTING
 BELT PULL INCREASE: TEMP 40° 35° 30° 25° 20°
 NO LOAD/START-UP FACTOR 1: 25% 35% 50% 60% 70%
 FULL LOAD FACTOR 2: 10% 15% 20% 25% 30%
 USE LARGER PULL FOR NO-LOAD x FACTOR 1 & FULL LOAD x FACTOR 2.
 THE PULL INCREASE MAY REDUCE # OF DIVERTS/DRIVE. CONSULT FACTORY.

