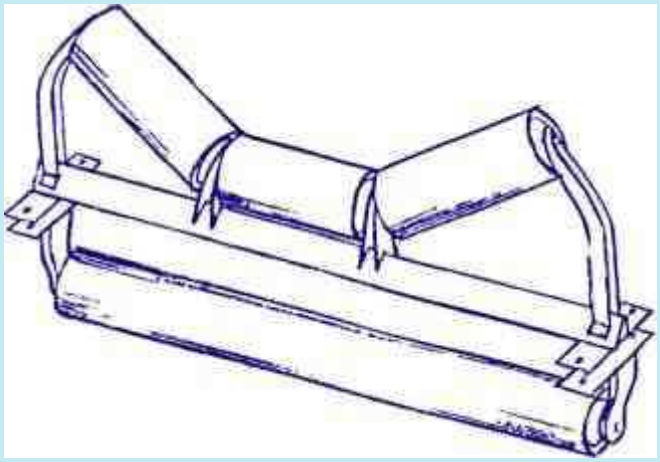
CEMA STANDARD NO. 502-2004

Revision of
CEMA Standard 502-2001

Bulk Material Belt Conveyor Troughing and Return Idlers

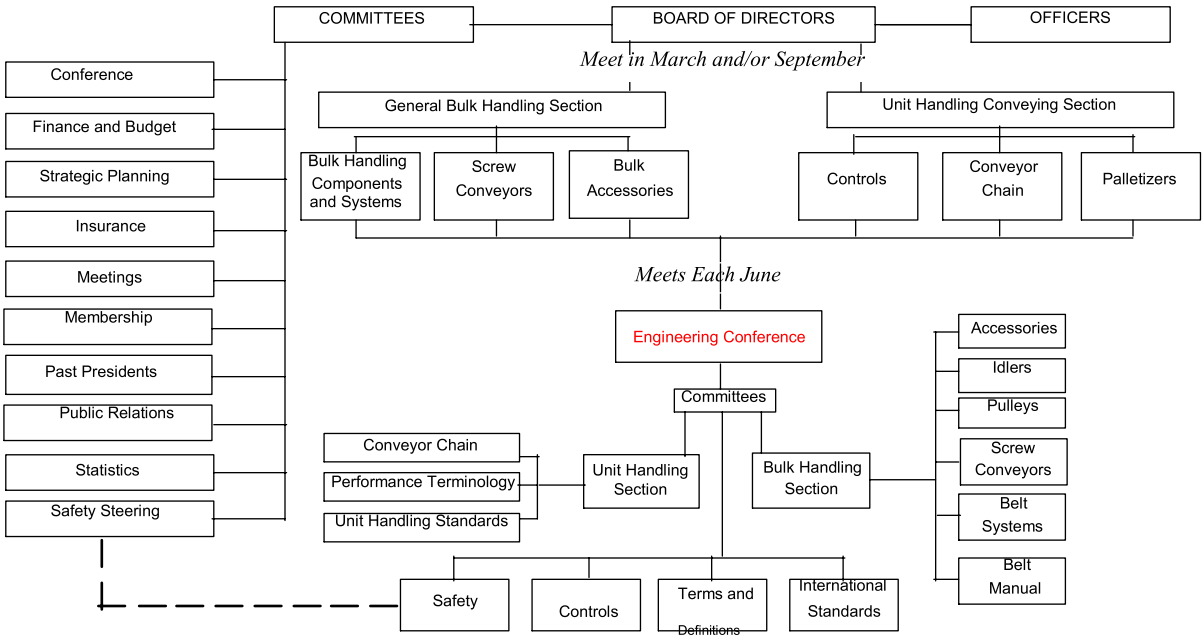
Selection and Dimensions



CONVEYOR EQUIPMENT MANUFACTURERS ASSOCIATION

ISBN 1-891171-52-6

CEMA ORGANIZATIONAL CHART



For Information on Company Membership
visit the CEMA Web Site at
http://www.cemanet.org

SAFETY NOTICE

The Conveyor Equipment Manufacturers Association has developed Industry Standard Safety Labels for use on the conveying equipment of its member companies.

The purpose of the labels is to identify common and uncommon hazards, conditions, and unsafe practices which can injure, or cause the death of, the unwary or inattentive person who is working at or around conveying equipment.

The labels are available for sale to member companies and non-member companies.

A full description of the labels, their purpose, and guidelines on where to place the labels on typical equipment, has been published in CEMA's Safety Label Brochure No. 201. The Brochure is available for purchase by members and non-members of the Association. Safety Labels and Safety Label Placement Guidelines, originally published in the Brochure, are also available free on the CEMA Web Site at http://www.cemanet.org/Safety/

PLEASE NOTE: Should any of the safety labels supplied by the equipment manufacturer become unreadable for any reason, the equipment USER is then responsible for replacement and location of these safety labels.

Replacement labels and placement guidelines can be obtained by contacting your equipment supplier or CEMA.

DISCLAIMER

The information provided in this document is advisory only. These recommendations are provided by CEMA in the interest of promoting safety in the work place. These recommendations are general in nature and are not intended as a substitute for a thorough safety program. Users should seek the advise, supervision or consultation of qualified engineers or other safety professionals. Any use of this document, the information contained herein, or any other CEMA publication may only be made with the agreement and understanding that the user and the user's company assume full responsibility for the design, safety, specifications, suitability and adequacy of the system component, or mechanical or electrical device designed or manufactured using this information. The user and the user's company understand and agree that CEMA, its member companies, its officers, agents and employees shall not be liable in any manner under any theory of liability for the user or user's reliance on these recommendations. The users and the user's company agree to release, hold harmless and indemnify CEMA, its member companies, successors, assigns, officers, agents and employees from any and all claims of liability, costs, fees (including attorney's fees), or damages arising in any way out of the use of this information. CEMA and its member companies, successors, assigns, officers, agents and employees make no representations or warranties whatsoever, either express or implied, about the information contained in this document, including, but not limited to, representations or warranties that the information and recommendations contained herein conform to any federal, state or local laws, regulations, guidelines or ordinances.

Bulk Material Belt Conveyor Troughing and Return Idlers Selection and Dimensions

FOREWORD

This standard has been established to provide uniformity of clearance and mounting dimensions among the various manufacturers of conveyor belt troughing idler and return rolls.

This standard assures the users of conveyor idlers interchangeability of complete idler assemblies but does not restrict the manufacturer, who has complete freedom to design all parts of the idler according to its best engineering judgment.

The various idlers are separated into nine different classes according to load ratings and roll diameters. There are some overlaps because of wide variation in idler construction. All manufacturers must specify into which class their particular designs fall.

It is hoped this standardization will eliminate requests for special idler designs. Conformance with this standard will provide better designs at lower cost.

The 1998 edition added technical data for expanded belt widths on CEMA C, D, and E Rollers and Returns and the tables have all been reformatted to make the material easier to access.

This 2001 edition has added technical data for CEMA C, D, and E Picking Idlers, Live Shaft Idler Dimensions and Load Capacities for Rubber Disc and Steel Tube Designs, and has modified the Idler Selection Procedures to include Impact Idler Selection.

This 2004 edition has:

1. Reformatted the tables for CEMA Class B,C,D, and E Troughing Idlers, Picking Idlers, and Return Idlers for easier reference.

2. Redrawn the Idler Diagrams to conform with the revised tables.

3. Added CEMA Class F Idlers

4. Reformatted and Consolidated CEMA Load Ratings and Capacities Tables

Prepared by
The Idler Committee
of the
CEMA Engineering Conference

CONVEYOR EQUIPMENT MANUFACTURERS ASSOCIATION
6724 Lone Oak Blvd.
Naples, Florida 34109
(239) 514-3441
Fax: (239) 514-3470
E-Mail: cema@cemanet.org
Web Site: http://www.cemanet.org

ISBN 1-89117-52-6

Publication Date: June 30, 2004

IDLER NOMENCLATURE

This standard provides uniform dimensional and load capacity information for several idler types, as follows.

-Troughing Idlers, with equal length rolls.

-Picking Idlers, with unequal length rolls.

-Return Idlers, with a single steel roll but typically available with rubber discs.

-V Return Idlers, with a pair of steel rolls but typically available with rubber discs.

-Live Shaft Idlers with steel or rubber surfaces.

Nomenclature and selection methods have been developed to provide a realistic and versatile means of classifying idlers. The idler classifications and historic series are tabulated below.

CEMA Class	Former Series	Roll Diameter	Belt Width	Description
A4	STANDARD WITHDRAWN - October 1, 1996			Light Duty
A5	STANDARD WITHDRAWN - October 1, 1996			
B4	II	4"	18" through 48"	Light Duty
B5	II	5"	18" through 48"	
C4	III	4"	18" through 60"	
C5	III	5"	18" through 60"	
C6	IV	6"	24" through 60"	
D5	None	5"	24" through 72"	Medium Duty
D6	None	6"	24" through 72"	
E6	V	6"	36" through 96"	Heavy Duty
E7	VI	7"	36" through 96"	
F6	New	6"	60" through 96"	Heavy Duty
F7	New	7"	60" through 96"	
F8	New	8"	60" through 96"	

TABLE OF CONTENTS

design, request certified prints