

# OSHAWA METAL CENTRE

## BEST PRACTICE - BLANK WASHER CENTRIFUGE

### BACKGROUND:

Oshawa currently has 3 Mark One blank washers on press lines running exposed metal. They have all been converted from water based to oil based washer fluid based on a benchmarking study completed by MFD Headquarters that stated the optimal method of cleaning blanks was to use an oil based washer fluid with a counter-rotating brush. We found on our Bay 8 press line that we were using a large number of washer filters and the fluid was difficult to keep clean. We run cold rolled steel for roof panels through this washer, which contributes a great deal of carbon smut to the system. We felt that a better filtration system was needed to maintain cleaner wash fluid, which will keep the washer rolls cleaner and result in better cleaning of the blanks and improved quality.

### TRIAL:

A 40 gpm centrifugal filtration system manufactured by BDI Kenscott was installed on the Bay 8 washer tank on a trial basis. The system was set up to draw fluid from the bottom of the return side of the tank and return the clean fluid to the bottom of the clean side. This helps to keep the fluid agitated.

### RESULTS:

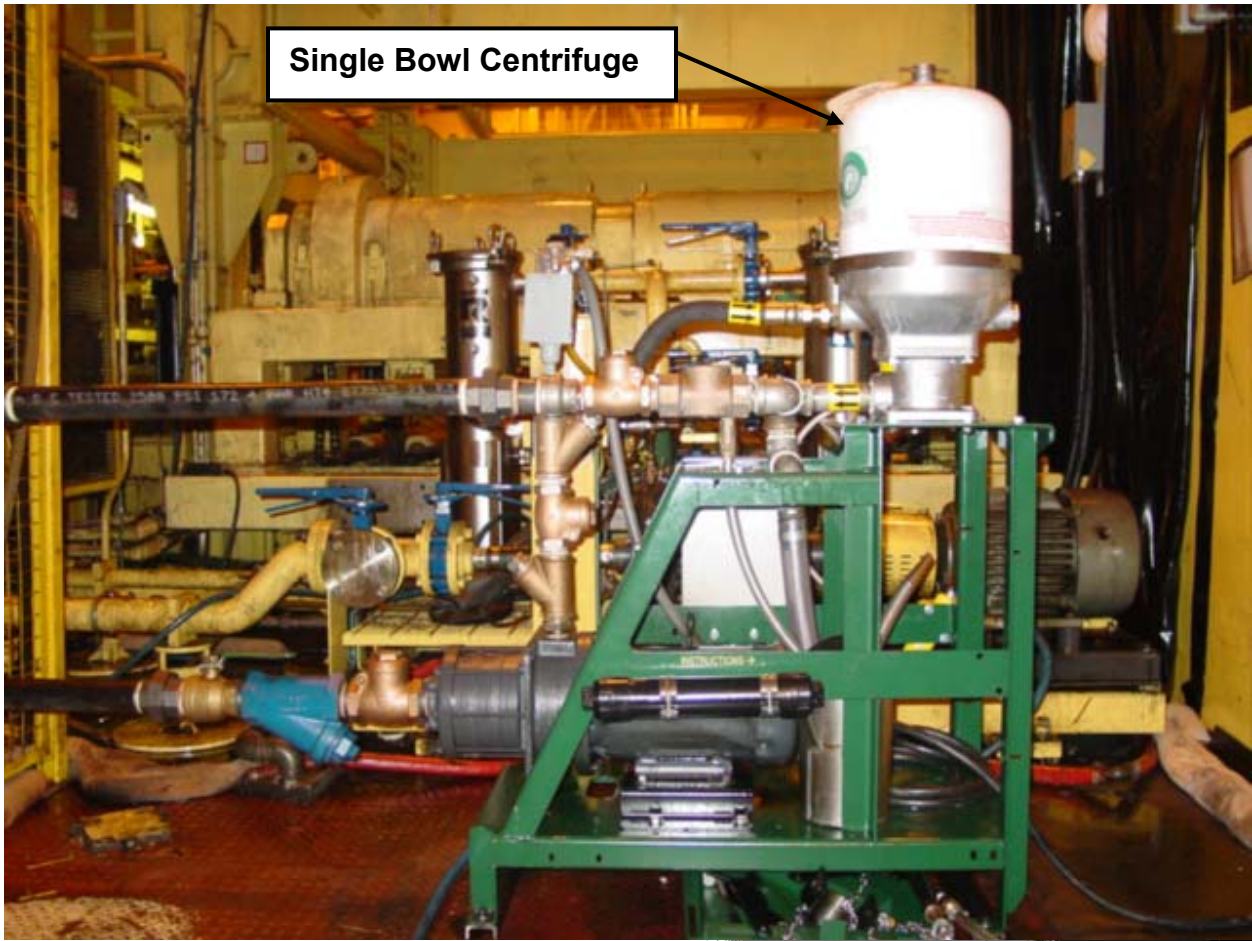
After changing the wash fluid and running the centrifuge for 1 month the bowl was cleaned out and approximately two pounds of black contaminant was removed. After a steady state condition was achieved the centrifuge required cleaning every month and approximately three pounds of contaminant was removed. Analysis of the contaminant showed 30% carbonaceous material and 30% metallic material was present, predominantly iron and zinc. A second unit was brought in with a capacity of 20 gpm that requires cleaning every two months and removes approximately 3 pounds of contamination. This reduced the cost of the unit by almost 50%. A 2% improvement in First Time Quality was also realized that has reduced the number of panels put on hold for repair. We have reduced the number of in-line bag filters that require changing from 96 to 12 per year. We have also eliminated the need to change the oil annually.

Annual Savings:	In-line bag filters	= \$ 714 CAD
	2% FTQ improvement	= \$43,057 CAD
	Oil Change Reduction	= <u>\$ 2,145 CAD</u>
	Total Savings	= \$45,916 CAD

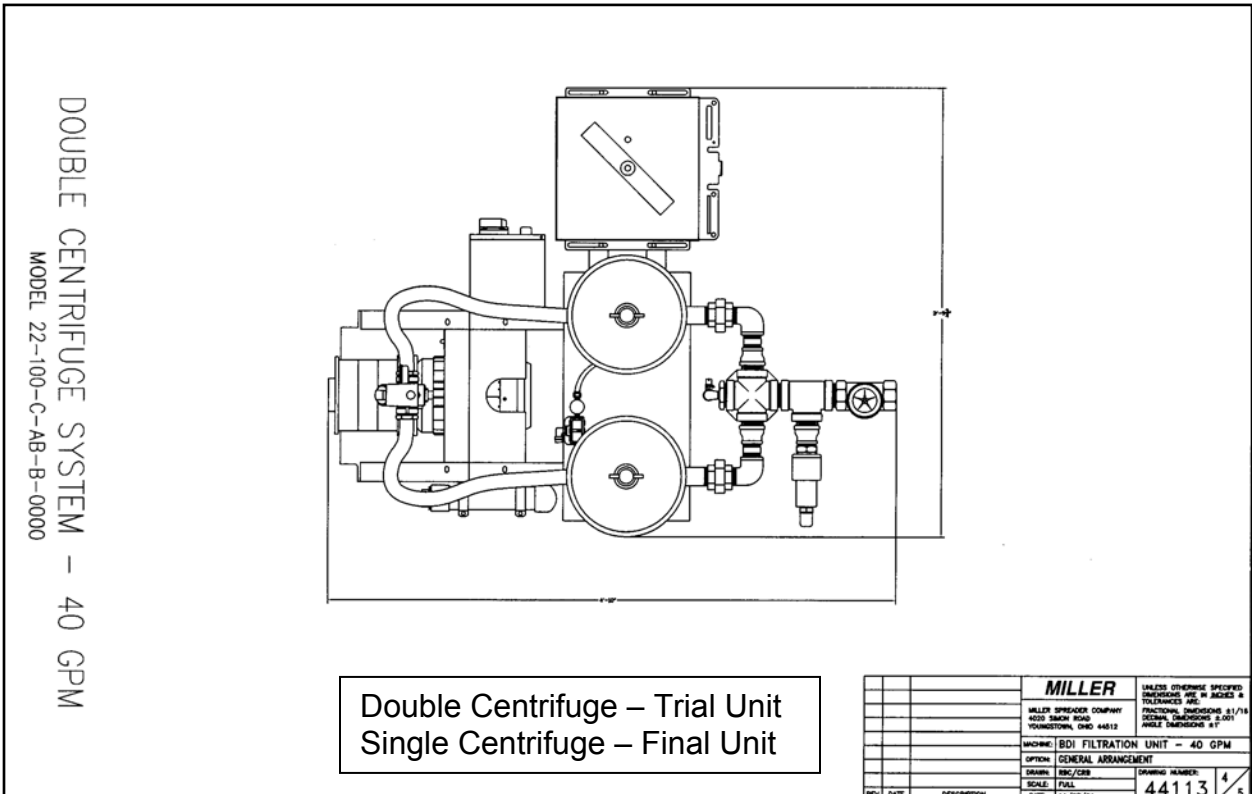
Unit Cost:	= \$26,064 CAD
Installation:	= <u>\$ 5,000 CAD</u>
Total Cost	= \$31,064 CAD

### BEST PRACTICE RECOMMENDATIONS:

1. Install centrifuge filtration systems on all oil based washers
2. Size the unit for 0.08 gpm per gallon of tank capacity
3. Run the unit continuously (except during shutdown periods)
4. Clean the centrifuge every two months and replace in-line bag filters
5. Change washer rolls once per year
6. Recycle the wash fluid at roll change and clean the tank



Single Bowl Centrifuge



DOUBLE CENTRIFUGE SYSTEM - 40 GPM  
MODEL 22-100-C-AB-B-0000

Double Centrifuge - Trial Unit  
Single Centrifuge - Final Unit

<b>MILLER</b>		UNLESS OTHERWISE SPECIFIED
MILLER SPREADER COMPANY		ENGINEERING: 402 N. RIDGE #
4000 SBAOH ROAD		TOLERANCES ARE:
YOUNGSTOWN, OHIO 44612		FRACTIONS: DECIMALS 81/16
		DECIMALS: DECIMALS 2.001
		HOLE DIMENSIONS: ±.1
WORK:	BFI FILTRATION UNIT - 40 GPM	
OPTION:	GENERAL ARRANGEMENT	
DRAWN:	RBC/CRR	DRAWING NUMBER:
SCALE:	FULL	44113
REV. DATE:	DESCRIPTION:	4
		5

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