BaHN Automation
Dedicated to Control Technics

Product Profile & Reference List

Multiple Compressors System Control (MCSC) Supplied to

Optimum Air Solutions Pvt. Ltd., (OptimAir), Bangalore

BaHN Automation Pvt. Ltd.,
3347/A, 1st Floor, 13th Main, HAL II stage,
BANGALORE – 560 008, INDIA

Tel : +91 80 4116 1664,
Fax : +91 80 2526 3223

Email : info@bahnautomation.com
Web : www.bahnautomation.com

"Multiple Compressors System Control (MCSC)" is a unique product developed by ***BaHN Automation*** based on a patented concept of M/s.Fouress Company LLC, USA as an "Energy Optimization System for Compressed Air Management".

Number of MCSC systems have been supplied to diverse manufacturing and process industries in India and Abroad thro' M/s. Optimum Air Solutions Pvt. Ltd., (OptimAir), Bangalore, resulting in energy savings of 15% to 30% per annum

As a System Integrator, BaHN Provided Complete System Integration Solutions for "Multiple Compressors System Control (MCSC)" to OptimAir in:-

- **Design, development and concept proofing**
- **Based on proven state-of-art PLC hardware**
- **Software based on industry standard ladder logic**
- **Engineering & software customization**
- **Manufacturing and testing**
- **System integration, supervision of on-site installation and commissioning**
- **Training of OptimAir & Customer engineers**

Multiple Compressors System Control (MCSC)

MCSC is an innovative product developed by *BaHN Automation* for multiple compressors control based on a patented concept of Fouress Company LLC, USA.

More than 30 systems have been supplied & successfully installed for vide spectrum of industries in India, USA & Mexico through M/s Optimum Air Solutions Pvt. Ltd., Bangalore.

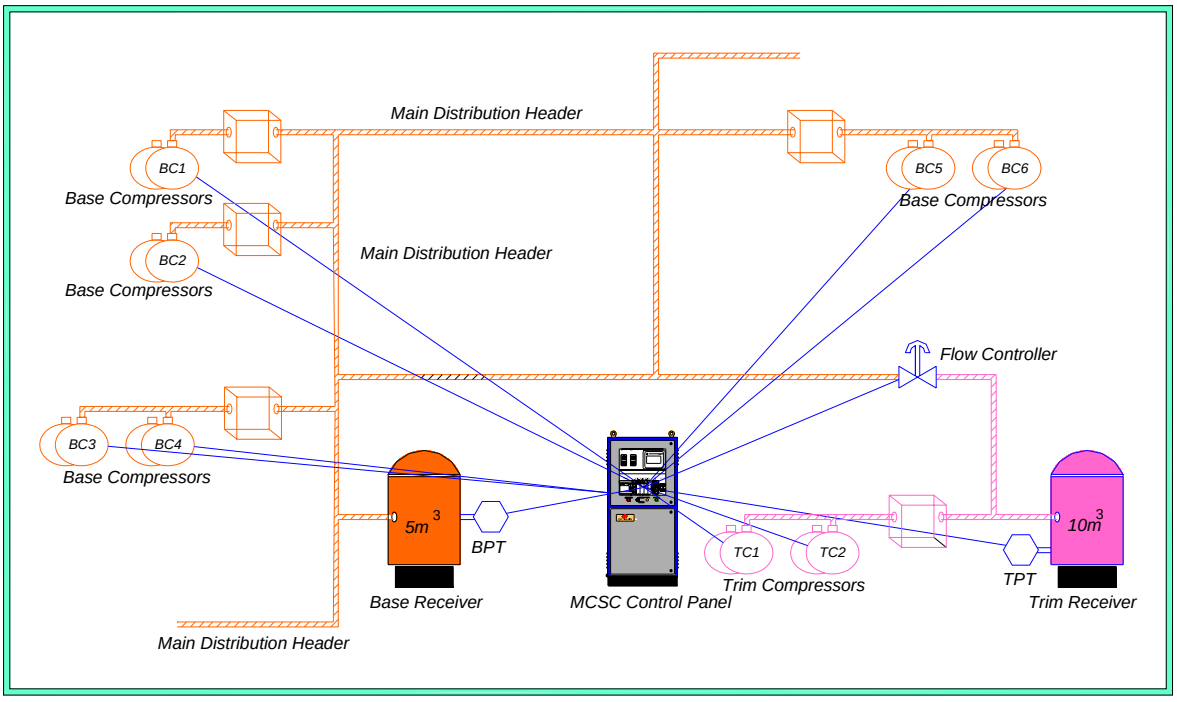
Use of MCSC has benefited the customers to save energy to the extent of 15 to 30%.

Customers have also derived indirect benefits viz., reduced manpower and maintenance costs apart from better utilization of compressors in using MCSC.

About Compressor Air :

- Apart from electricity & water, compressed air is a very important utility in any manufacturing, process industry.
- About 7% of energy consumed all over the world is on account of compressed air generation.
- Operational cost / annum of a compressor is about five times the cost of the compressor itself.
- Every 1psi more pressure requires 1% more capacity.
- Every 2psi more pressure consumes 1% more electricity.
- Reducing operating pressure by 10psi will reduce energy consumption by 5% if the system is 100% regulated and up to 15% if the system is 100% unregulated.
- Many compressed air systems waste 40% energy due to
  - Inefficient operation
  - Artificial demand
  - Idle running

MCSC – Overview & Principle



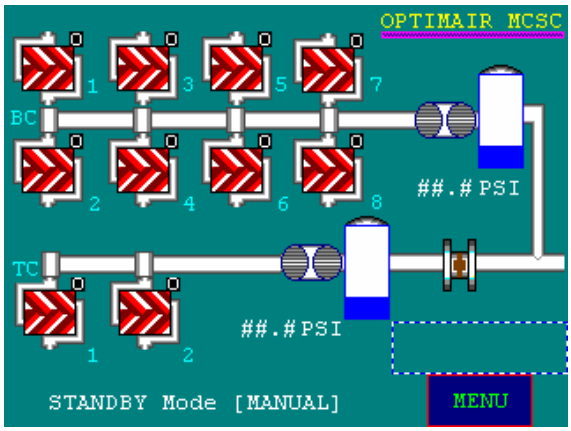
- Based on air consumption, energy audit, the compressors are grouped as base and trim compressors
- Base compressors meets the base or main load of the plant
- Trim compressors along with trim receiver caters to plant load fluctuations
- Trim compressors always maintain air in trim receiver at slightly higher header pressure
- The Flow Control Valve regulates and maintains constant header pressure for varying flow conditions
- The main header pressure can be set as required by a PID
- MCSC monitors the dynamics of the systems by monitoring main header pressure & trim receiver pressure
- Depending on the plant load, MCSC operates required number of base / trim compressors to maintain set header pressure

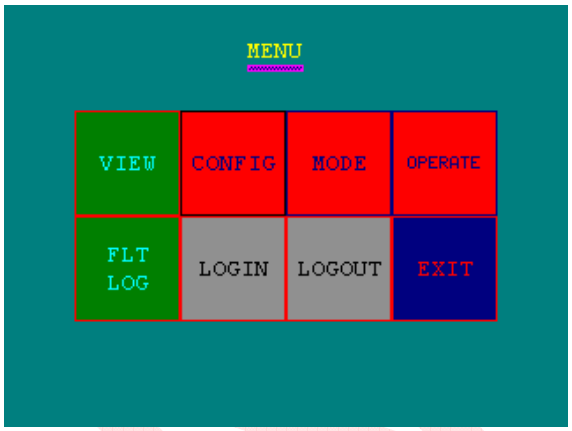
BaHN Automation
Dedicated to Control Technics

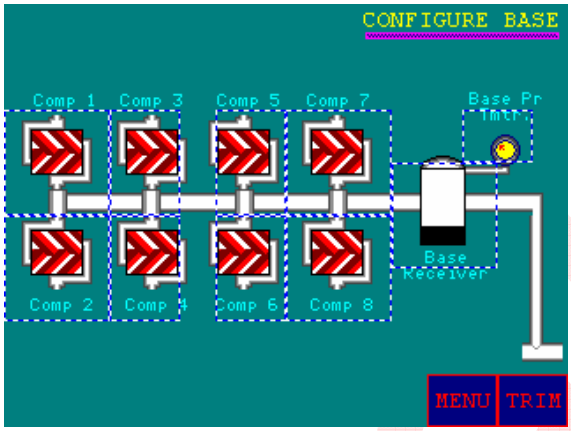
MCSC – Hardware & System Features

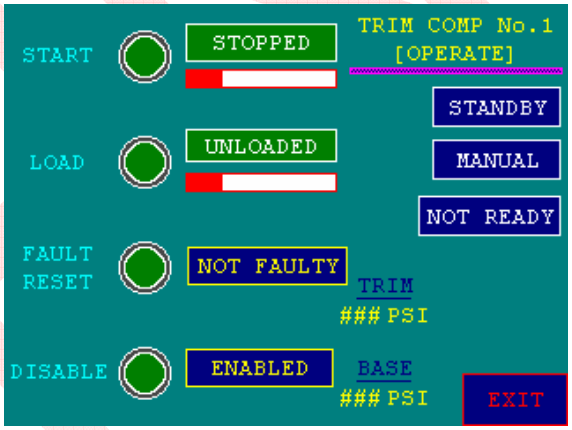
- Hardware based on reputed Allen Bradley make PLC
- SLC as well as MicroLogix PLC platforms
- Either monochrome or color touch panels as GUI
- Yokogawa make PID controller for setting of header pressure and control of Flow Control Valve
- Hardware & software customization for 4, 6, 8, 10 and 12 compressors
- Industrial grade sub-systems, items, components
- Modular construction and accessibility for all items
- Screw on terminations for easy field wiring
- Installation & commissioning without any plant shutdown
- MCSC can interface with screw as well as reciprocating compressors of any make and type

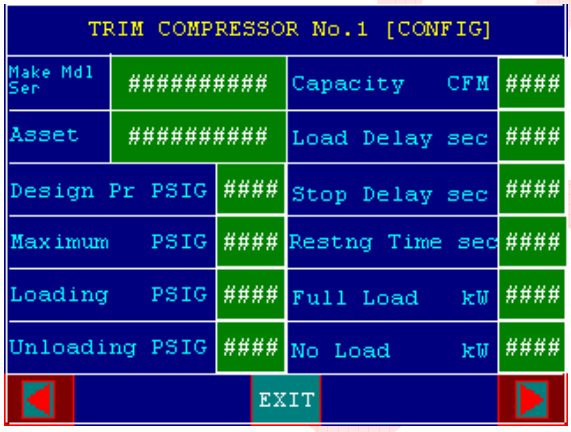
MCSC – GUI Features

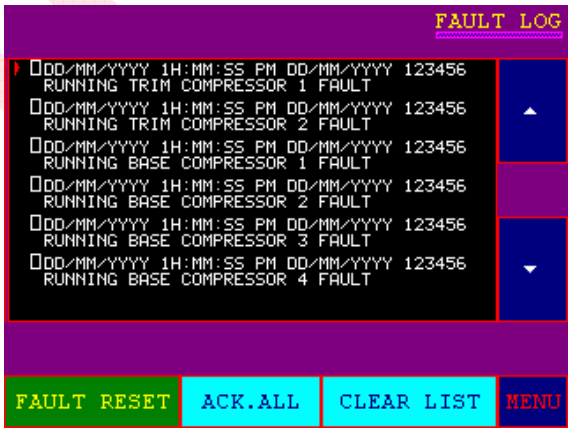












- All system parameters can be monitored on Touch Panel (GUI)
- Display of operational status of each compressor
- Compressors parameters viz., loading / unloading pressure, load, stop, rest delays and so on can be set or altered as required
- Logging, display of faults with date & time stamp
- Hierarchical level based password protection

MCSC – Reference List

BaHN Automation
Dedicated to Control Technics

Projects Executed for Optimum Air Solutions Pvt. Ltd., Bangalore						
Sl No	Customer	No of Compressors		Total	Total	No of
		Total	Connected	kW	CFM	Headers
A)	**Indian Projects**					
1	Hindustan Unilever Ltd., Pondichery	8	6	328	1800	One
2	TVS Motor Company, LAC, Hosur, Tamilnadu	8	6	335	1869	One
3	MRF, Chennai, Tamilnadu	8	7	1178	6000	Three
4	Pricol, Plant-I, Coimbatore, Tamilnadu	6	4	342	1755	Two
5	UCAL, Maraimalai Nagar, Near Chennai, Tamilnadu	6	5	302	1885	One
6	Ashok Leyland Ltd., Plant-I, Hosur, Tamilnadu	10	9	1495	8595	Two
7	TVS Motor Company, Mysore, Karnataka	10	10	276	1692	One
8	Pricol, Plant-III, Coimbatore, Tamilnadu	6	3	336	968	One
9	HAL, Bangalore, Karnataka	6	6	660	3825	One
10	Premier Mills, Belathur, Near Hosur, Tamilnadu	8	8	562	2782	Two
11	Grindwell Norton, Bangalore, Karnataka	6	6	176	800	One
12	Hindustan Lever Ltd., Orai, UP	6	4	450	2500	One
13	Ashok Leyland, Bhandara, Maharashtra	8	8	810	4730	Two
14	Turbo Energy, Pulivalam, Tamilnadu	6	6	205	1177	One
15	Indo Rama Synthetics Nagpur, Maharashtra	10	10	1760	6380	One
16	Exide Industries, Hosur, Tamilnadu	10	10	417	2522	One
17	Ultra Tech Cement, Awarpur, Maharashtra	10	8	1600	8000	Two
18	Saint Gobain Glass, Sriperumbadur, Tamilnadu	8	5	820	5000	Three
19	ABI Turnamatics, Pulivalam, Tamilnadu	6	5	123	670	One

20	ABI ShowaTech, Pulivalam, Tamilnadu	8	6	170	920	One
21	TVS Srichakra-I, Tyre Plant, Madurai, Tamilnadu	6	5	217	1260	One
22	TVS Srichakra-II, Tube Plant, Madurai, Tamilnadu	6	6	290	1710	Two
23	AT & S India Ltd., Nanjangud, Karnataka	6	6	471	2600	One
24	Simson's & Co Ltd. Chennai, Tamilnadu	6	5	491	2600	One
25	Exide Industries, Rewari, Haryana	6	6	195	1140	One
26	Wheels India Ltd., Pune, Maharashtra	8	7	497	3055	Two
27	JK Cements - I, Mudhol, Karnataka	6	6	375	1850	One
28	JK Cements - II, Mudhol, Karnataka	6	6	375	1850	One
B)	**Export Projects**					
1	Tyco, Raleigh, USA	6	4	350	2100	One
2	Tyco, Greenville, USA	6	3	147	890	One
3	Tyco, Chicopee, USA	6	3	221	1330	One
4	Tyco, Tijuana, Mexico	6	5	534	3220	One